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FARM & FIRE INSURANCE



EASTERN EDITION.

Entered at the Post-office at Springfield, Ohio, as second-class mail matter.

VOL. XXI. NO. 19.

JULY 1, 1898.

TERMS \$50 CENTS A YEAR.
{24 NUMBERS.

The Handy War Book

A new book of important and authentic information and statistics on the many subjects relating to the present war, such as size, population, climate, commerce and resources of the islands concerned in the Spanish-American conflict, with many other facts which readers of war news should have.

Pictures of U. S. War Vessels

And a classification and description of the various ships in navies of Spain and America, with definitions of naval terms used, etc.

Fine War Maps

Of Cuba, Porto Rico, Philippines, Havana and Harbor, and West India Islands, and a large map of the World.

FOR FULL DESCRIPTION AND PRICE SEE PAGE 19

WITH THE VANGUARD

BEFORE the war with Spain political pessimists had become so noisy and commercialism so active that many thoughtful Americans were almost persuaded that true courage and patriotism had departed. But by the very first engagements in actual war was this fear dispelled. Brave hearts beat beneath our flag. There are Deweys and Hobsons under its folds. In line and rank are men worthy of the honor of following Old Glory around the world in the cause of justice, liberty and humanity.

THE government crop report for June estimates the acreage of spring wheat at 16,800,000 acres, which, added to the area of winter wheat, indicates a total wheat acreage of about 43,000,000 acres, an increase of about 3,500,000 acres over last year.

The average condition of spring wheat on June 1st was nine per cent better than the June average for the past ten years. The average condition of winter wheat on June 1st was eleven per cent higher than the June average for the past ten years. Between the first and fifteenth of June there was a decline in the condition of winter wheat, and the outlook is not quite so promising.

The government June reports of acreage and condition of wheat indicate a total yield of about 650,000,000 bushels. This is a very high estimate, and it is likely that the actual yield will fall below it. It is well, therefore, to discount the sanguine prophecies of a 700,000,000 or more bushel crop. Coming as they do, just at harvest, they look like efforts to depress the price of wheat below its normal value at the time it begins to move from the producer's hands.

Wheat exports for the fiscal year ending July 1st will be, in round numbers, 200,000,000 bushels. The world's wheat reserves have been exhausted. The new crop, even if it reaches 650,000,000 bushels, will be worth a fair price, and conditions justify the producers in holding out for it.

THE uncertain and disturbing influences of manipulative speculation," says the Cincinnati "Price Current," "has been illustrated in recent events in the wheat market. The great wheat deal that has gone through the past year, and which has been held up to view as beneficial to the producer, is subject to doubtful consideration in such a light. Its influence of a prejudicial nature, in a full survey of the situation, has been important, and probably cannot be balanced by demonstration of favorable influences. Its culmination in a manner presumably disappointing to the great 'leader' is a lesson which may be of value to others."

"We do not think that any one, working under modern economic conditions," says the New York "Sun," "has made a successful corner of any staple commodity. Young Mr. Leiter, of Chicago, has probably come as near to doing it as anybody; and even he, we presume, would now be much obliged to any one who would tell him accurately what the degree and extent of his failure to do it have been.

"He had wealth, intelligence, a rich father, and the comfortable social seclusion naturally pertaining to a young gentleman of his circumstances. In a twelve-month he has disposed of the wealth, enlarged the intelligence, reduced the paternal substance, and become himself the most conspicuous and notorious character of the time. The whole world knows him. In every quarter of it his is the figure that most fills the minds of men. The farmers of the West want to make him president; the ignorant Socialists and Anarchists of the East want to sequester him and hang him; while he himself, in the consciousness of his true dimensions, is marveling sorely at the cost of experience.

"Kings of old could corner grain; and the Venetians and the Dutch, when in their best form, did their corners to profitable ends. In these days of rails and telegraphs, however, it is not for such as young Mr. Leiter to hold all the wheat, or all of any other great staple, as against the markets of the world, with the possibilities of supply and the threat of production to come against him. He has tried it, and he has failed upon a glorious scale. The parental Leiter has seen himself become celebrated as young Mr. Leiter's father, and he can console himself for the disaster in which he shares only by contemplating its superb dimensions."

THE phenomenal exports of corn are reviewed as follows by the Bureau of Statistics: "Reports to the bureau show that the exportation of corn for the fiscal year ending with this month (June) will considerably exceed 200,000,000 bushels, and when it is remembered that in only three preceding years in the history of the country have the exports of corn reached the 100,000,000-bushel mark, it will be seen that the gains in exports during the present year have been very great. The first year in which the corn exports reached the 100,000,000-bushel line was in 1890, when they were 103,418,709. In 1896 they were 101,100,375 bushels; in 1897, 178,817,407 bushels, and in 1898 will doubtless reach, if not exceed, 210,000,000 bushels.

"The shortage in other classes of breadstuffs abroad, and the high prices of wheat and flour, have evidently turned attention to American corn. The exports during May averaged fully 1,000,000 bushels for each business day. The average for the preceding months of the year was less than 17,000,000 bushels a month, and in 1897 less than 15,000,000 bushels a month; while in 1896 the average was less than 9,000,000 bushels a month. The exportation of corn in 1898 will, measured by quantity, exceed that of wheat in any year in the history of the country except 1892, though, of course, in value or per cent of domestic product exported corn falls far below wheat.

"Great Britain is our largest customer in regard to corn as in most of our other exports. The total exportations of corn to the United Kingdom for the first ten

months of the present fiscal year were 68,066,775 bushels, out of a total of 163,654,184 bushels. The next largest customer is Germany, which took in the same ten months 29,525,876 bushels, while all other countries of Europe took less than 50,000,000 bushels, British North America 15,105,053 bushels, and Cuba 1,045,472 bushels. Mexico, which imported about 10,000,000 bushels of corn from the United States in 1897, took but 118,833 bushels in the first ten months of the present year.

"The shortage in breadstuffs in other parts of the world is also being felt in its effects upon our exports of oats and oatmeal, which in the present fiscal year will be more than double those of any preceding year except 1897, and more than fifty per cent in excess of the record for that year, the total for the ten months ending April 30th being 67,474,246 pounds of oatmeal and 55,976,712 bushels of oats, against 40,457,027 pounds of oatmeal and 28,279,914 bushels of oats in the corresponding ten months of 1897."

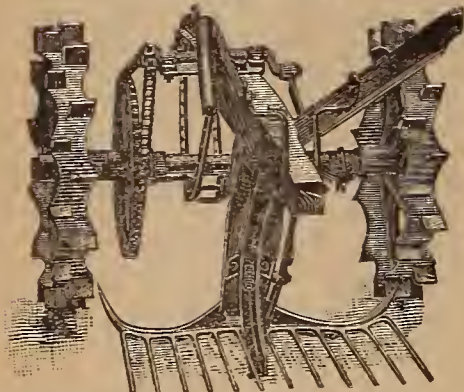
IN the debate on the Hawaiian annexation bill, which passed the House by the decisive vote of 209 to 91, Congressman Dolliver said:

"Now, my friend from Indiana complains of annexation because, he says, it will lead us in the direction of territorial expansion. To his imagination the Administration and the American people have already turned aside from the high purpose with which we entered into this war, and are to-day waging it for the purpose of conquering other countries and taking possession of islands of the sea; and yet when he comes to the proposition that Great Britain or Germany or some other great commercial power will possibly in the future lay violent hands on Hawaii, he says such a thing is not to be thought of, that it is incredible and not to be tolerated for a moment. What frame of mind has a man grown into when he distrusts everything his own country does, and believes that the same motives do not actuate the other great commercial and enterprising nations of the world? I for my part have more confidence in our own country than I have in any other country in the world.

"My friend started out with the proposition that Hawaii was not necessary for us in this war. This is not the question. This war is an incident—a noble and splendid incident, but only a small incident—in the life of a great community like ours. We are dealing to-day not with the war with Spain; we are dealing for the millenniums yet to come, when the flag of the United States shall be in the sky like it is to-day. While war is an unhappy condition, what is done with the Hawaiian islands will be done in the next ten years, and the nation that gets possession of them, if that nation survives, will hold them for centuries to come.

"In view of what is now, in view of all that is to come, I favor immediate annexation of these islands. My friend says we are about to annex all the islands of the Orient. We have an interest in the Orient to-day. It is not our fault that when we entered on the war with Spain we entered upon a duty to strike Spain wherever she lived, and in the discharge of that duty we are in a situation in the Philippine islands. We have a little squadron of our navy there, we have the greatest and most famous living sailors in the world on our flag-ship in the harbor of Manila. Nothing has happened at Manila for which I shall ever be persuaded by friend or foe to make an apology. We are there in the providence of God, and not by any human design, and the same providence that has guided us until this hour will guide us in a wise solution of every great question that is created by our situation. The American people will take care of the Philippine islands when our campaign in the Orient is at an end. The American people will take care of Porto Rico; they will take care of Cuba; and these people will find in the hearts of the American people the same sympathy, the same anxiety for their welfare that persuaded this great republic to raise an army and send its navy on its mission of mercy and peace in the West Indies."

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WANTED! Every potato grower, to write at once for testimony enough to convince him that this is the best digger made, regardless of price, also **SPECIAL PRICE to first purchaser in unoccupied territory.** Agents wanted. **Box, 804 D.Y. HALLOCK & SONS, YORK, PA.**

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Chicken fence 19¢. Rabbit-proof fence 18¢. and a good Hog fence for 12¢. per rod. Plain, Galvanized Spring and Barbed Wire to farmers at wholesale prices. Catalogue FREE for the asking. Address: **KITZELMAN BROTHERS, Box 225, Ridgeville, Indiana.**

Our Farm.

AIR DRAINAGE AS A FACTOR IN APPLE-RAISING.

It is recognized that the fruit-grower select good land for the planting of his trees; that this be well drained, and that it be so situated as to command good shipping facilities; but it is not yet fully realized that air drainage is often a leading factor in not only the production of fruit, but also in the vigor and longevity of the trees. Proximity to a large body of open water is counted upon as an insurance against frost injury to the buds in the spring and to the ripening fruit in the autumn—the cold water in the early months chilling the air, thus preventing the hasty expansion of the buds, and the warmed water in the fall keeping the temperature of the atmosphere at a uniformly higher temperature than in similar situations where lake and river are absent. The presence of water-vapor in the air has also a marked influence upon its temperature, the condensation of this vapor liberating a vast amount of latent heat and thus warding off frost.

Apart from the influence of low temperature during the spring and the autumn, river and lake, so long as they remain unfrozen, exercise a marked protective influence upon the orchard during the winter; but when they freeze over this influence comes to an end and the locality is as unprotected as if no body of water were present. This is because (rivers and lakes occupying the low places upon the surface of the earth) the cold air settles and lodges in these depressions, being drained from the uplands in the same manner as water is. This settling of the cold air may be readily perceived in descending the slope of a land-pocket or valley. The observer may frequently notice a change without the aid of any instrument.

It has been noted that in low situations, such as mentioned, even "iron-clad" trees that have at first borne profitable crops have gradually become so weakened by the annual extremes of cold that they have lost the power to bear paying quantities of fruit. It is, therefore, always best in climates noted for low temperatures to select as orchard sites land well up above river or lake, if these are likely to freeze over for any considerable time.

Perhaps no better instances of the gradual weakening of the fruit-trees by cold can be cited than are afforded by the lowland orchards of Maine, New Hampshire and Vermont. Here the upland plantations, though less favorably situated as to shipping facilities either by water or by rail, have proved more profitable than the orchards of the lowlands, simply because they are exposed to less rigorous winters. The farmers in these localities have learned that they run less risk in the raising of fruit, and that their chances for profit are consequently better than in the lowlands, and are setting as many trees of choice market varieties as their means will allow. They are also doing this in the confidence that because the superiority of Northern-grown fruit, particularly apples, is gradually but certainly becoming recognized in the markets, they can therefore dispose of all that they are likely to raise, and that at the best figures. There is not likely to be a glut of first-class, well-graded fruit in any of the world's markets. The same conditions as apply in these regions also obtain to a greater or less extent in many other sections of our country. The prospective planter in any of these places should therefore not overlook them, because they may be the deciding factors on the balance-sheet.

M. G. KAINS.

LAND-LEVELER AND CLOD-CRUSHER.

Noticing description of two land-levelers in your issue of April 15th, I send you one that I have had in use for several years that gives me great satisfaction and is easily made. I use the fork of a small tree or a large limb, say six to eight inches in diameter, such as I used to use for making a "lizzard, or stone-boat." The one I am now using is the forked limb of an old apple-tree that had just the right curve in front. On the bottom nail inch-boards, put on weatherboard-fashion; on top put one or two for a platform for the driver; bore a hole through the front end to hitch the doubletree or loop a chain through the fork, and then you have it. It firms the ground, too, so that seed germinates quicker.

A. G. CHASE.

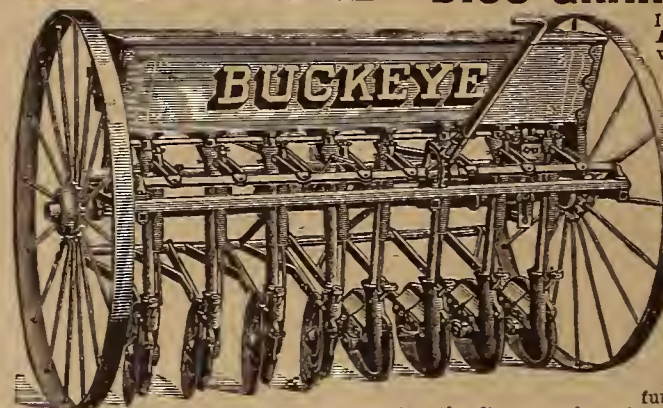
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The Advantages

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THE government crop report for June estimates the acreage of spring wheat at 16,800,000 acres, which, added to the area of winter wheat, indicates a total wheat acreage of about 43,000,000 acres, an increase of about 3,500,000 acres over last year.

The average condition of spring wheat on June 1st was nine per cent better than the June average for the past ten years. The average condition of winter wheat on June 1st was eleven per cent higher than the June average for the past ten years. Between the first and fifteenth of June there was a decline in the condition of winter wheat, and the outlook is not quite so promising.

The government June reports of acreage and condition of wheat indicate a total yield of about 650,000,000 bushels. This is a very high estimate, and it is likely that the actual yield will fall below it. It is well, therefore, to discount the sanguine prophecies of a 700,000,000 or more bushel crop. Coming as they do, just at harvest, they look like efforts to depress the price of wheat below its normal value at the time it begins to move from the producer's hands.

Wheat exports for the fiscal year ending July 1st will be, in round numbers, 200,000,000 bushels. The world's wheat reserves have been exhausted. The new crop, even if it reaches 650,000,000 bushels, will be worth a fair price, and conditions justify the producers in holding out for it.

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ABOUT RURAL AFFAIRS.

Fruits as Food. Mrs. S. T. Rorer, in the June number of the "Ladies Home Journal," recommends "peaches, apricots, nectarines; ripe, mellow apples; dates, figs, fresh and dried; prunes, without skins; persimmons, pawpaws; very ripe or cooked bananas; guavas, without seeds, fresh or canned without sugar; pineapples, grated or finely picked, never cut; mangoes; grapes; sweet plums, without skins; sugar cherries, and an occasional cooked pear. Bartlett's are excellent when canned without sugar." As fruits which must be used most sparingly she names "lemons, oranges, shaddock, currants, barberries, cranberries and strawberries." This applies most emphatically to those persons who are inclined to uric acid conditions. The rheumatic and gouty should also most rigidly abstain. The tender lining of the child's stomach certainly cannot bear such fruits any length of time; serious results must follow. The ripe, mellow peach is really the child's fruit. I wish I had not seen this until after the strawberry season, which, at this writing, is just beginning here—about a week earlier than in ordinary seasons. As long as strawberries last the bulk of my meals consists of bread (home-made) and butter, strawberries, cream and sugar. Of strawberries I eat no less than three quarts a day. And now comes this Mrs. Rorer, relying on her authority and reputation, and thinks she can deprive me of my enjoyment of this "queen of fruits," as well as induce me to deny it to the rest of my family. But, as heretofore, such a diet on berries has already had the happiest effect on my general health and digestion. I think I will have my berries once more, Mrs. Rorer's warning, notwithstanding. While there is truth in some of her statements, others are simply absurd. The fact is that all people are not alike. Some people can eat what others cannot. I know persons for whom strawberries are almost so much poison. Some people like strawberries and other fruits more than others do. As a rule, however, the strawberry must be classed as a wholesome fruit that can be eaten to the full limit of our natural appetites. Currants, which Mrs. Rorer forbids to persons just like me, are really a medicine for me and most gratifying (in almost any quantity) just when recovering from a headache due to "uric acid condi-

tions." Under ordinary circumstances we may also use lemons, oranges and shaddock most freely. Lemon-juice in hot water, taken in large doses, is a very effective tonic, and of great medicinal virtue for rheumatic and gouty persons. On the other hand, people with chronic bowel trouble must avoid an excess of indigestible matter, vegetable fiber, seeds, etc., all of which are liable to irritate weak bowels. For all such I would recommend the use of fruit-juices rather than of the fruit itself. Squeeze the juice out of your strawberries, currants, raspberries, pineapples, etc., and use it freely, either raw or cooked, with or without sugar. But don't get scared out of your wits and abstain from the free use of all these "delicacies of the season" merely because Mrs. Rorer or anybody else (not better posted about the dietetic qualities of our soil products than she seems to be) says we must most rigidly abstain from this or that fine fruit. The ripe, mellow peach is anybody's fruit—harmless in any quantity and surely delicious if in perfection. Herein Mrs. Rorer is right.

Why So Many In my younger days, when traveling or making excursions through the country, often on foot, I used to carry some sort of pistol or revolver as a protection. I can truly say, however, that I have never had the least use for a protective weapon in any place, either in Europe or here. But I have seen a good deal of mischief resulting from the handling of revolvers and other firearms in the hands of irresponsible persons. Only yesterday an eight-year-old boy in this vicinity played with a loaded revolver (which he happened to find at his home), and accidentally discharged it, lodging a bullet in his own leg. Every few days I see boys that ought to be in school traveling up and down the highway and near the creeks close to my house carrying a big gun and shooting at anything that they consider good game, whether it is in the water or up in a tree. A week or two ago I suspended sentence on a young fellow who, being intoxicated, pulled out a revolver and fired right and left in the public highway, close to a number of dwelling-houses. He pretended that he carried the revolver for his own protection, being out collecting a good deal. For the protection of the rest of the people, however, I confiscated the revolver, which is now town property, and gave him a good lecture besides, before suspending sentence on him. I shall try to have our village fathers pass an ordinance forbidding the handling and use of firearms by minors in the streets of this village. It seems to me the plain duty of parents, however, to look a little more closely after their boys. There are few houses in this country where a revolver or gun of any kind is needed. In the great majority of cases the presence of firearms in the house is a source of danger rather than of protection. For every injury rightfully inflicted by a revolver for the owner's protection twenty or more injuries are inflicted "by accident" to innocent persons, often to a member of the owner's own family. Away with firearms except in war-time!

Growing Chrysanthemums at Home. "The popular interest in chrysanthemums continues to be unabated. The chrysanthemum fills a season which is occupied by no other important flower, and it presents the most astonishing ranges of form, color and behavior. In addition to all this, the plant is easily grown and it responds quickly to all the little modifications of treatment which the plant-lover habitually bestows upon his plants." This is the gist of the report of Director I. P. Roberts, of the Cornell University experiment station, to the New York state commissioner of agriculture, and given as a reason for the publication of station bulletin No. 147—the fourth report upon chrysanthemums. A few extracts from the bulletin may not come amiss:

"It is not true that the farmer's wife may not have a few fine chrysanthemums. She may have them in her garden for the price the least part of which is paid in money, but they will give the highest pleasure when they blossom indoors during November. They cannot be raised as easily as a geranium, but they can be grown in the house by all who really love to care for plants. . . . The very first requisite of success is to cherish

an ideal. . . . (1) Do you want a few large flowers such as you see at the shows? Then you can have only one stem in a flower-pot, and only one flower on that stem, and you must have pots of various sizes up to six or eight inches in diameter at the rim. Pinch off the young shoots as soon as they show themselves, so that the plant can never branch. If you are successful you will have the beauty of an individual object. It will be a wonderful thing and may not fit in with anything else, but will demand attention for itself alone. . . . (2) Do you wish enough size of flower so that you can recognize the variety, and are you willing to sacrifice somewhat in point of numbers? Then you had better aim to produce about four flowers to every plant, each flower six inches in diameter and with only one flower on each branch. These branches should be as long as possible, and therefore you should pinch out the central shoot of the young plant when it is five or six inches above the soil, and make it branch. . . . On the whole this is the best method for the home window, and with practice from three to six large characteristic flowers may be grown in a six-inch flower-pot. . . . Whatever ideal is chosen, the best way to begin, in general, is to buy young plants of the florist. Young plants of any size from two to twelve inches in height can usually be had any time from March to July 1st. Trust it to the florist for variety. . . . In general, dwarf, short-pointed varieties are best for the window-garden. Probably most people will prefer to buy their plants in May or early June, plant them outdoors in boxes, and remove them bodily indoors at the approach of frost. . . . The box method avoids the shock of transplanting. Old soap-boxes will do very well, although not as handsome or as good as pots. Tin cans are too small, and transplanting from them is practically impossible. T. GREINER.

SALIENT FARM NOTES.

In a chat I had with a thoroughgoing farmer recently he related an experience which is well worth recording. I give it in as nearly his own words as possible, and I hope many a down-at-the-heel farmer will read it, and profit by the reading.

On a farm adjoining the one on which I was born and raised lived a man who was at that time considered one of the best farmers in that section. His farm of one hundred and ten acres was naturally fertile, and he tilled it so well that it yielded him some of the finest crops I ever saw anywhere, and he made lots of money. He built a nice house, a good barn, and all other outbuildings were of the best style, and he was regarded as the most prosperous and skilful farmer in that locality by all except one "old crank," as many called him. This old man used to say:

"P is a good soil-tiller, but unless he dies early he will die bankrupt. He is drawing on the fertility of his soil as fast as nature, coaxed by the best tillage, will let him. In a few years that land of his will not respond to his excellent tillage as it has done, because he never feeds it. He is taking from it all the time, and returning nothing to it at any time. There is no land in the United States that will stand such farming as that for many years. Eventually a mortgage will eat that farm. When he burns his straw and his corn-stalks, and lets the little manure he makes waste away, he is drawing up the mortgage that will take his home and scatter his family. Remember what I tell you, boys!"

Before I was fairly grown we moved out here, and though we heard from the old neighborhood occasionally, fifteen years rolled by before I saw any one who lived there when we did. Then I met one of my old schoolmates, and he told me a tale that made me heart-sick. The following spring a live farmer friend and I took advantage of a veteran reunion excursion to have one more good look at the scenes of our youth, and to once more sit on the old fences and play we were boys.

"Let's go straight to P's," said my friend, "and see if old cranky Jack's prophecy about the mortgage has come true."

Long before we reached the house he said:

"Billy, there's something wrong here, I'll bet my hat! Look at those fences! See the barn, how weather-beaten it looks! And the house—why, Billy, there's every symptom of a cutthroat mortgage, even if we don't find one."

A wrinkled, bent, gray-haired old lady answered our knock, and my friend blurted out:

"Can it be possible that this is Mrs. P?"

"Yes," she replied, with a faint smile; "but who are you?"

We told her, and I never saw a person more delighted than she was. And how glad she was to tell us all about her affairs. Mr. P had been dead twelve years. Her eldest daughter was married and lived in California, and seemed to be doing only fairly well. Her eldest son was working in a factory in Chicago. The second son worked at home in summer, and had taught school the past two winters. He had been a good boy, and had paid the interest on the mortgage out of his earnings; but he had determined to go West. He had begged and urged her to sell the old farm for what it would bring, as it was "too poor to live on any more!"

The third son, nineteen years old, and her little daughter, fourteen years old, were her farmers, and, like her, felt that they ought to hold onto the farm as long as possible, because it was their only home.

"Ed is in the field trying to fix up the old pasture fence," said she, "and Essie is at school. I do wish you would stay with us a few days and talk to Ed and show him how to do things better, if there is any better way of doing them."

Presently Ed, a sturdy, good-natured young fellow, came in, and was told who we were. He needed no introduction, he said. He had heard of us so many times that he felt like we were his old neighbors. Then we went out with him to the old barn.

"Billy," exclaimed my friend, "I can see mortgage" all over this barn, that yard, those fences, the house, and, in fact, over the whole farm! How much is it, Ed?"

"Fifteen hundred dollars," replied the boy.

"Fifteen hundred dollars! Old cranky Jack was a prophet!"

We found the land utterly devoid of humus, and as Ed plowed the following day the soil rattled down into the furrow like stones, and a shower packed it together like it had never been plowed. Ed was a fairly intelligent young man, and kept himself pretty well posted as to what was going on in the world, but he did not know what humus was, nor what effect it had on the soil. He liked farming "if a fellow can make anything," he added, plaintively. But crops had been so poor that he felt like it was hard, uphill work.

Here was a strong, willing, steady young man who was fairly well informed on all common matters save those pertaining to his own profession. He was anxious to succeed, anxious to do well in his vocation, anxious to redeem the old farm and provide mother a good, quiet home and to free her from all care in her old age; yet all he actually knew about farming was what he had picked up while working along in a sort of half-hearted way. From the time he was six years old until sixteen he had attended district school in a community of farmers, and yet neither looks nor teachers had given him one atom of instruction in any branch of the vocation he followed for a living. He had studied fancy penmanship, banking, aliquot parts, etc., but he learned nothing whatever about how plants grow, soil chemistry, the effects of manure, clovers, etc., on the soil, nor even how to plant or cultivate the commonest fruits or vegetables.

But as it was a waste of time to talk about defective systems and what should have been done, my friend decided he would himself give Ed two weeks' practical instruction, then lend him some of his best books and send him two live agricultural journals. The following winter he sent him to a good agricultural college for the short, or winter, term. He did not pay his way, but loaned him the money to pay it.

What is the result? Ed's eyes have been opened as they never were before. In a few years that mortgage will disappear like a morning mist. Ed will be a real farmer, and under his management the old farm will rise faster than it went down under the mismanagement of his father. His example will stimulate the young men in his neighborhood—will encourage them to study scientific agriculture, and to stick to the farm.

FRED GRUNDY.

Our Farm.

FARM THEORY AND PRACTICE.

OUR WHEAT STRAW.—The eastern farmer values the straw from his wheat crop very much as many of our western farmers value their hay. Hay always commands a price in eastern cities that seems very high to us who live west of the mountains, and all feed is relatively higher than it is in our great western valleys. This state of things has led the eastern farmer to learn the feeding value of straw, and the result is that the straw crop is carefully housed. West of the mountains it is the rule to stack all straw out of doors, and not infrequently the stacks are so placed that no feeding value of any account is gotten from them. The loss from this source is great, and the remedy is better facilities for housing at least a portion of the straw, thus making it possible either to carry more stock or else to convert more timothy hay into cash. A common custom is to mow a considerable lot of the wheat in the barn and then stack the straw outside at threshing-time. Where a barn is not large enough for threshing in a barn and leaving the straw in a bay, it would often be better policy to stack the wheat outside of the barn in such a position that the thresher could throw the straw into the barn. Threshers now keep the chaff in the straw, and a ton of bright straw, housed like hay, should easily replace a half ton of timothy sent to market. The straw should be well tramped in a deep bay, and later in the season heavier stuff, like corn-fodder, can be moved away on top of it, and thus there is no excessive waste of room in housing the loose straw. If fed long—and comparatively few farmers are willing to cut it—one can afford to feed liberally, allowing the horses to cull out about two thirds and leaving the remainder for bedding. Most farm-horses stand idle much of the winter, and their keep is a big item of expense. It can be reduced materially by the adoption in the West of the methods that are practised by many of our eastern farmers, who house their straw crop just as surely as they do the hay.

SELLING OR HOLDING WHEAT.—No one can forecast prices with any degree of certainty, but the farmer each year must back his own judgment concerning the course of prices for the coming year. He threshes his wheat, and then the crop must either be marketed or be stored at some expense in the way of labor, insurance, shrinkage and value of money invested. This expense may be figured closely, and the one big consideration is the probable price later on. The loss in weight of dry wheat is trifling, being only one to two per cent. Insurance is rarely reckoned if the farmer is out of debt and if the money from the wheat will be needed later in the year for current expenses of the farm. Insurance should never be neglected, but the expense is comparatively a small item. The man that held his wheat the past season, selling at the right time in May, made a nice profit from holding. The excessively high price in that month was due in part to scarcity, and in greater part to fear of scarcity in case of war in Europe. There was not a mere corner in Chicago, as heavy sales were made to Europe at very high prices, the wheat being shipped in million-bushel lots. There was probably undue fear of immediate war among European nations and exaggerated fears of scarcity, but the whole affair proves that old wheat reserves are exhausted. All the reports indicated that such would be the case before this harvest, and the reports are proven correct. The very low prices a few years ago were made possible by the existence of a surplus, carried over from year to year, that could not be used. That is out of the way now. There can be no immediate return to fifty or sixty cent wheat, no matter how good the present harvest may be. Prices at threshing-time must be fairly remunerative ones. War excitement, and recent prices will combine to hold much wheat back from market. No combination of millers can make the price of the new crop remain absolutely low. There will be a paying price at threshing-time which affords encouragement, and with that practically assured we can face the future with some confidence, whether we sell or hold for the chance of something better. Present conditions are probably very temporary; now

is the time to pay any debts of the past or lay by a little for the future—another harvest may command only the low prices of former years.

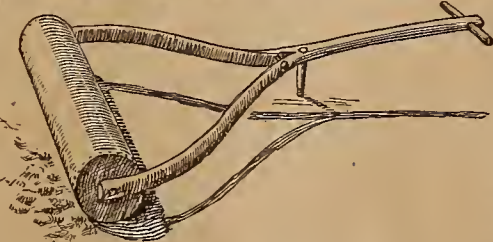
CARE OF YOUNG CLOVER.—The hardest time upon the young clover in the wheat stubble comes immediately after wheat harvest. The plants have been protected from the rays of the sun throughout their short existence, and suddenly they are brought into full exposure to them in the hottest and driest season of the year. A high wheat stubble should be left by the reaper, if the straw can be spared. It affords some protection until the clover-plants harden and make sufficient growth for clipping, and then the stubble makes a mulch. The clipping of the clover makes it branch out closer to the ground, and the light mulch of stubble, weeds and clover affords some protection against drought. The cutter-bar of the mower should be tilted back so that the stubble is left about four inches high, and cloudy or damp weather is the best time for this work. The first clipping may be made within a month after the wheat harvest, and if the weather is seasonable a second clipping early in September may pay. No weeds should be allowed to seed or to stand on the ground and make dusty hay the next year. Such a clipping with a sharp sickle costs only a trifle an acre, and the man that farms for profit cannot neglect it.

PLOWING EARLY FOR WHEAT.—So much has been written concerning the thorough preparation of the ground for wheat that one hesitates to say more, but all over the country this year we see the effects of tardy preparation last summer. Breaking was not rushed right after harvest, and soon the drought came. Then rains were waited for before attempts were made to crush the clods made in plowing. We cannot plow wheat-land too early, and we can afford to neglect some other work for the sake of pushing the plowing when the ground is in the right condition. If the clover or grass has not made a stand in the wheat stubble, and the field must be broken for wheat again, the earlier it is plowed the better. The work should be insistently pushed, regardless of hopes that the rain will continue. Usually drought does come, and the plowing and pulverizing should be made to move along before August dries out the soil completely. Only in this way can we insure a good seed-bed. If a field is broken and fairly well pulverized before the middle of August a good stand of wheat-plants is insured, if proper care is used. On the other hand, the late-plowed field, in a very dry fall, fails to get a stand. It is a matter of management and largely within our control. The earlier the seed-bed is made the more plant-food and moisture is secured.

DAVID.

SOME HANDY ROLLERS.

The garden and flower-beds require firming of the surface after planting to insure even distribution of moisture and perfect seed-germination. This is necessary also in starting a lawn, and frequent rollings will destroy ant-hills and rout many soil pests that accumulate in neglected plats. In my own experience I have fully proven the benefits of rolling, and would not attempt growing a garden, lawn or flower-

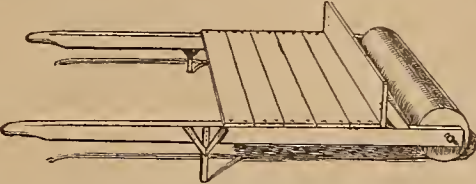


bed without some means of leveling and firming the rows and beds. The surface does not bake so hard in spots where the beds are properly leveled and rolled; the seeds sprout more uniformly and the plants grow better, while the work of weeding is lessened and the appearance much more than pays for the care in properly preparing the seed-beds. But every farmer does not have sufficient cash at his command to purchase all necessities though the tools may be cheap and small, hence some home-made implements are often brought into use. Hand garden-rollers may be made at home by any person familiar with the use of tools.

A cheap roller, large enough and good enough for even the professional kitchen-gardener, may be made for fifty cents or

less, and with proper care will last for many years. The material I used in constructing this handy tool consisted of a joint of six-inch stove-pipe, a split oak sapling and a small two-inch board nailed across the split just behind the roller. The pipe was well riveted with wrought nails; a short apple-tree limb, with old bolts driven in either end, was put in the pipe and packed solidly in gravel and sand, and an inch board was sawed out to fit the ends, and nailed in, after tamping the sand and gravel. Auger-holes bored in either side of the split handle made that fit nicely, and to strengthen it wire nails were driven through and bent on both sides. A support to hold the tongue or handle off the ground was made by nailing an eight-inch peg in an auger-hole at the point where the split stopped. The roller could be pushed or pulled back and forth, over and across, and did most effective work.

The small roller proving inadequate as a clod-crusher and leveler, where the soil



was rough and uneven, I made a larger, stronger and more durable tool after the fashion of a wheelbarrow. In this I used the six-inch stove-pipe filled with sand and gravel, and iron spikes driven in a center square block for an axle. The frame was made of two by four inch scantling, with boards nailed across for a bottom, and a dashboard of eight-inch plank nailed to upright standards just behind the roller. This made a platform for weighting the roller, by giving the children a ride or putting in some rocks. The legs may be left off, if desirable, and the roller can be made of wood to suit the circumstances. In this roller, however, where much weight is needed, the stove-pipe is hardly heavy enough, and a round block of wood, even one foot in diameter, is preferable. This roller can be used in the same manner as a wheelbarrow, and is a very handy, inexpensive tool that more than pays for its manufacture in one season, and will last a great many years if properly handled.

JOEL SHOMAKER.

THE TOAD.

Until comparatively recent times the toad has been an object of superstition and of suspicion. It was regarded as venomous, probably because of its repulsive appearance and its deformed-looking body, and yet it was held in reverence because it was believed that its head contained a priceless jewel that had the power to detect poisons and to destroy their power. Roman matrons, according to Juvenal, relieved themselves of uncongenial husbands by feeding them with toad soup, and one subtle housewife sought to dispose of her sickly spouse by mixing the ashes of burnt toads in his warm drink. After several unsuccessful attempts she became discouraged, and the poor man lived to a green old age.

In ancient medicine the toad had an important place. When dried it was considered a sovereign remedy for bleeding of the nose, and when tied around the knee was a sure cure for gout. In magic witches valued it as possessing the very choicest venom in addition to other valuable properties.

These superstitions, which originally pertained to the European toad, were brought to America by the early colonists, and were attached to our native toad. At the present day, of course, they are very generally disbelieved, but even yet there lurk in the New England hills and even farther to the westward families that know that touching a toad will produce large warts; that killing one will produce bloody cows; that toad's breath will cause convulsions in children; that toads in a newly dug well insure an unfailing supply of water, and that the owner of a newly dug cellar is sure to be prosperous if toads are found in it.

There is, however, something about the toad, as its life history and habits will show, that is not based upon superstition. In early spring the toads emerge from their winter quarters where they have lain dormant, and make their way to the ponds and stagnant waters, where they soon start their spring song which lasts through the breeding season. When they reach the

water, and in some cases even sooner, they pair, shortly after which long slimy ropes of eggs are deposited in the water by the female. The eggs grow rapidly larger, and in about four weeks hatch into tadpoles, which in about eight weeks transform into toads. The little animals then leave the water, and being very sensitive to heat, shade themselves from the sun. But after a shower of rain they come from their hiding-places so suddenly and in such numbers that they are popularly believed to have fallen in the shower. This sensitiveness to heat is, however, a means of protection, since they would, if not concealed, fall a prey to birds and animals that move about by day. Probably numbers are killed by night birds and animals.

The toad in tadpole form probably lives upon vegetable remains, slime, small water-plants and animals in the ponds; but when he gets his legs and loses his tail, in other words, transforms into a toad, he changes his diet. Then his principal food is living insects, spiders, worms and the like, which are always captured while in motion. So long as the prey remains perfectly still it is safe, but a slight move is sure to prove instantly fatal. The toad's tongue, its only organ for catching prey, is attached to the lower jaw in front, but is free behind, and the rear part is moved forward and back so quickly that it must be very closely watched to see it move when the animal seizes its food.

The toad's capacity for food is wonderful. He will eat all night, except when food is exceptionally abundant, and in twenty-four hours will consume about four times as much as his stomach will hold. In other words, he will fill an empty stomach once in six hours. He recognizes the advantages of good locations, and may often be found at any hour of the night under the electric-lights in the streets devouring insects that fall to the ground. As soon as the light is turned off he seeks his shelter. His principal food is insects, he, of course, making no distinction as to their habits, whether beneficial or injurious. But in this connection it is worthy of note that examination of a large number of toads' stomachs shows that only eleven per cent of the creatures he eats would be beneficial or indirectly helpful to man, while eighty per cent are directly injurious or obnoxious.

With the knowledge of the above facts a larger number of men may feel justified in carrying toads home in their pockets and providing little shelters for them. These shelters need not be more than small holes covered with pieces of board or stone. If the food be in sufficient supply the toads will probably stay in the new quarters. In greenhouses toads have been found eminently useful in destroying sow-bugs, snails and other pests.

If the housewife could overcome her repugnance toward these creatures she might, like the French matrons, dispense with fly-paper and poisons and yet have her house free from flies. A wooden box partly filled with earth, and in which is placed a piece of bread soaked with molasses or other food of which flies are fond, will be all that is necessary. The toad will eat the flies fast enough to justify the outlay for syrup. If roaches are troublesome the toad, if let loose on the floor at night, will soon rid the house of them. When kept in the house, however, the toad must have water. This may be supplied by sinking a dish in one corner of the box and keeping it supplied with water for the toad to hop into.

M. G. KAINS.

PURE WATER JUST NOW.

Too much stress cannot be laid on the fact that the superiority of Jersey butter depends on its quality, and that this quality cannot be preserved if cows are fed or allowed to eat impure food or drink impure water. Pure water is of more importance than pure food; that is, water fresh and free from foul odors as well as from disease germs. This fact is manifest on remembrance that water makes up such a large proportion of all milk and passes so rapidly from the stomach into the circulatory system. The quality of milk that a cow gives is directly governed by the quality of water she drinks. In view of this fact, Jersey cattle owners cannot be too careful in providing a plentiful supply of fresh, clean, pure water for their cattle—cows and calves as well. No artificial device is so good as a natural spring branch running over a gravel and sand bottom.—*Jersey Bulletin.*

Our Farm.

NOTES FROM GARDEN AND FIELD.

THE NEWEST CELERY CULTURE.—In a pigeon-hole on my desk is the MS. of an as yet unfinished book which I had intended to publish under the title "The Newest Celery Culture." A few weeks ago, however, I found that some one had gotten the start of me, as an article under that heading appeared in one of our leading agricultural papers. Of course, the title will be changed, but strange to say the writer gave in substance the same method which I have selected as "newest" and safest for me. It is a kind of intermediate plan between the older celery culture and that newer way of close planting, which was introduced as "the new" celery culture. This "newest" is best adapted to the self-blanching varieties, for the summer and fall crops. To tell it in a few words, have two rows, say six inches apart, setting the plants five or six inches apart in the rows; then leave a space of about twenty inches, and plant another two rows, etc. Lines of boards are set up on the outside of each two rows, and the vacant spaces between the boards are filled with coarse manure, upon which in irrigating the water is poured rather copiously during hot and dry weather. This method has given me excellent results, and I anticipate such results again this year.

THE NEW WAY OF RAISING PLANTS.—One of the best things about this newest plan is the new way of raising the plants. To get good celery-plants early in the season has always been a task requiring skill and painstaking. For the early (summer) crop I had to prick out seedlings from the flats, say in March or April, and provide much space in cold-frames, and even then did not always get what I call really good plants; namely, plants with much root (tap-root preferred) and comparatively little top. For the main or winter crop I have habitually sown seed in a well-prepared bed outdoors as early as the ground could be got in good working order; sometimes I got good plants by July; sometimes I got none—the seed failing to come up in very dry weather, or being kept back by a crust forming over it after heavy rains. For both early and late plants I now sow the seed in flats the last of February or first of March for the earliest, and first of April for the winter crop, sowing seed very thinly in shallow drills, the latter being not much over one half of an inch apart, and set the flats in the greenhouse or in a hotbed in any suitable place (for awhile even under the greenhouse benches). When the plants are nicely up, and the ground outdoors is in good working order, the plants may be set outdoors without delay. In the first place I want a piece of very mellow and very rich ground. I always have a good dressing of hen manure well worked in with the soil. Be sure that the mixture is well done. I do not know of any manure from which I can secure prompter and more satisfactory effects in pushing rapid growth of vegetable plants (and of spinach, onions and beets, too) than well-fined and well-distributed hen and pigeon manure. Old, well-composted rabbit and sheep manure comes next. A good plan to get a nice manure for the purposes of celery-plant growing is to haul nice loamy soil or dried swamp-muck to the hen and rabbit houses; cover the floor from six inches to a foot in depth, leaving it there for the rabbits to dig and the hens to scratch in (and to absorb the liquid and solid wastes) for a year, more or less. Then shovel it out, mix with that from the rabbit-pens and hen-house thoroughly, and you are ready to apply it in almost any quantity and to any garden crop, with astonishing results.

When the ground is ready, take a flat with plants out to the patch; use a little flat (not rounded) trowel for opening a little furrow; then cut out a row of plants from the flat, soil and all, and set them into this furrow. If the plants are too thick in the row, spread them apart as you set them, and be sure to press them well and firmly into the moist soil. If it is rather dry and the sunshine hot I lay a few sticks of wood across the row at intervals of six or eight feet, and upon them lay a line of boards so as to be directly over the row of plants. These boards may be left on for a few days and then again removed. The row covered by a single

ordinary board contains hundreds of plants. In dry and hot weather the row may be mulched with cut straw or fine manure when the board is off, or without it the soil is to be stirred frequently about the row. By June 1st you can have plants in this way for the early crop, and by July 1st for the winter crop, that are far ahead of the best cold-frame outdoor plants as usually grown. So far as the production of good celery-plants is concerned I can now more truly than ever say: "Eureka—I got it!"

A NEW REMEDY FOR WIREWORMS.—Powdered mustard is being recommended for driving away or killing wireworms. A contributor to the "Gardener's Chronicle," London, England, tells that he effectively disposes of the wireworms that infest his soil by strewing a little powdered mustard along the rows after sowing seed and before covering them.

A LIVING FROM TWO ACRES.—One of our contemporaries asked a number of "shining lights" in horticulture, among others my friend Prof. Bailey, of Cornell, whether it be possible and practical to get a living for a small family off two acres of ground. Prof. Bailey thinks that under favorable conditions and good management it is. I would like to see Prof. Bailey, with all his abnormally large allowance of intelligence, make the trial, to do for a year without his good income from other sources and live wholly on the proceeds of the best two acres of land (not occupied with costly glass structures) devoted to the production of vegetables, etc., even if managed with Prof. Bailey's superior skill and experience. There are people who make a living off two acres of ground planted in vegetables. But these people know nothing of our luxurious style of living. They have a good near market and they know enough to keep every foot of ground occupied with some money crop the entire season. One person might succeed in such an undertaking; fifty would fail. I, for myself, would not care to attempt the task of supporting even a small family on the income derived from working two acres of land, except the space be largely under glass or I had an unlimited demand for cabbage, celery and other vegetable-plants at retail rates.

TOMATOES FOR EXPORT.—Undoubtedly there is a good chance of profit in growing tomatoes for the English market. My Canadian friend tells me that he received one dollar net for his tomatoes. That is a pretty good price. What is wanted is a firm tomato of only a medium size and good shape. Perhaps the Mills will fill the bill. To keep for a long time they must be picked while yet somewhat green, and then wrapped in tissue or parchment paper and crated for shipment. A number of "extra early" sorts have been sent out this year. I now have Brill's Extra Early, Fordhook Fancy, Freedom, besides Early Advance, Ruby, Leader, Atlantic Prize—theu Ideal, Mills, etc. When I find among them one that is satisfactory in every respect I will be quick enough to tell of it.

NEEDED TOOLS.—For some purposes our common garden hoes or rakes are too slow. Often we have to rake our fields over when fitting them for setting onion-plants or for sowing small seed. Our common steel rakes are only a foot wide, and it takes a good deal of time to go over a patch. I hope some of our manufacturers of garden tools will before long give us a rake not less than two feet wide. It will save us more than half the time consumed in raking. And thus it is also with the hoe. For drawing soil up to the rows of celery, in hilling, the hoe might just as well be eighteen inches wide. Sometimes I have remedied the deficiency in length by riveting a piece of an old cross-cut saw, eighteen inches long, on an old hoe, and thus been enabled to do quick work; but why don't manufacturers give us such tools.

T. GREINER.

MARKET NAMES.—Life is too short for the busy marketman to always call things by their proper names, especially when those names are long ones. Asparagus is always dubbed grass. Cucumbers do not lose any of their crispness by being called cukes. Pineapples—why apples?—are designated as pines, etc. Brevity is money in one's pocket, oftentimes.—Rural New-Yorker.

ORCHARD AND SMALL FRUITS.

CONDUCTED BY SAMUEL B. GREEN.

CORE-ROT.

If the grower of apples and pears intends supplying the home market or a distant one, it is important that he select Christiau varieties—true at heart. The pleasure in eating a fully ripe Clapp pear is only a short step from the disappointment at biting into one that is rotten from the center almost to the surface. Two varieties of pears that have come to the market within the last few years are Bessemianka and Sapienganka, both Russians. These have been found hardly even where the temperature falls to twenty-five degrees below zero. The fruit is of fair quality, but it must be picked while still green or it will rot at the core. It may be ripened in the fruit-room without other care than occasional examination and removal of ripe specimens.

Some varieties of apples also have this defect. The Gideon is one of these. The rotting sometimes occurs while the fruit is on the tree. The "water-core" of the apple turns brown and loses its surplus water by evaporation, thus becoming smaller. It separates with the carpels from the outer pulp and remains apparently suspended by its axis. The fruit may retain its form and apparently be all right, but the flavor will have gone. To prevent this the fruit should be harvested and be stored in a cool place as soon as the pips begin to turn brown. The ordinary cellar will not do for this variety, because it will not keep into the winter under the conditions that prevail in such places.

The same defect has been observed in that splendid apple, the Jonathan. Two trees of this variety were situated about one hundred yards apart, one being on the level, the other about fifty feet below upon the hillside. In some seasons both trees would be affected; in others, neither, and at other times the one on the hillside and still again the one in the garden above. I would not destroy the trees because the Jonathan is my best dessert Christmas apple and because the trouble was only occasional. It came about once in three years.

M. G. KAINS.

INQUIRIES ANSWERED.

Peach-enrl.—W. B. O., Swedesburg, Iowa, and S. K., Thomasboro, Ill. The leaves enclosed were infected with what is known as "peach-leaf curl." It is caused by a fungus which works in the tissues of the leaf, causing it to assume its peculiar bloated appearance. It is probable that the fungus winters over in the wood on infected branches. A similar fungus produces what are known as "plum-pockets," and cause plums to swell up in



much the same way as the peach-leaf varieties. There is no sure remedy. The best treatment consists in spraying the trees before the buds swell with thick Bordeaux mixture made of five pounds of lime, five pounds of sulphate of copper and twenty-five gallons of water, and in pruning back the branches that are diseased. It is a good plan to remove and bury or burn the diseased branches of foliage as soon as the disease appears, but this is impracticable in orchards of large trees.

Wintering Monthly Roses—Peach-curl.—T. D. T., Keene, Ohio. Monthly roses can generally be safely wintered in your section by laying the canes on the ground on the approach of hard freezing weather and covering with about three inches of earth and then six inches of mulch, and cover the whole with a box or boards to keep out water. I think your peach-trees are injured by leaf-curl, but cannot tell until I have a specimen. See reply to W. B. O., in this issue of FARM AND FIRESIDE.

Japanese Persimmons Falling—Pear-blight.—R. W., Houston, Tex. Most of the Japanese persimmons bear young and heavily,

and I cannot understand your case. It is possible, however, that it is making such a strong growth of wood that the fruit is starved, although this is very unlikely. Perhaps you have some variety that has a weakness of this sort. I think I should try some other kind and see what success I had. I think the leaves of your pear-trees are injured by blight. The only proper treatment is to cut off at once the blighted twig or branch two or three inches below the lowest point where injury can be seen.

Peach-curl—Paris Green on Peach-trees.—Mrs. G. A. J., Steuben, Ohio, writes: "Please tell me what to do for my peach-trees. The leaves are nearly all thick, white, curly and blistered, as you may see by inclosed leaves. I sprayed them last year with Paris green, and the leaves came off and others grew on. I fear that would kill the peaches."

REPLY:—The trouble with your peach-leaves is due to the peach-leaf curl. See reply to W. B. O., and S. K., in this issue. Referring to your using Paris green on peach-trees and killing the leaves, all the stone-fruits are liable to injury by Paris green, and it is a very unsafe material to use on them. If you wish to use it for curculio or some of the foliage-eating insects on peach, plum or cherry, you should use as much lime as Paris green, which will neutralize the free acid and render the poison less injurious. Paris green is an insecticide, but will poison only insects that bite, such as caterpillars, cutworms and others; it will not injure leaf-lice or chinch-bugs, for they suck the juices of the plants. The latter must be killed by some material that stops their breathing organs, or is caustic in nature, such as whale-oil soap, kerosene emulsion, tobacco-water, tobacco-smoke, etc. For fungous diseases, such as peach-rot, leaf-curl and grape-vine mildew, you should use fungicides, such as Bordeaux mixture; but this will not cure diseases, but is used to prevent its entering the plant or to render harmless the spores that might be thrown off by plants.

Wood-ashes—Washing trees—Lime—Tobacco-stems as a Fertilizer—Apple Varieties, etc.—R. A. W., Finlow, W. Va., writes: "What is a fair price for oak-wood ashes? Are they a valuable fertilizer for an orchard? If so, kindly advise how to apply, and how much to a tree two years old. Will unleached ashes dissolve ground raw bone?—Would you advise whitewashing a young orchard?—Will a thick paste made of lime injure the roots of fruit-trees? It is said such paste will keep insects from boring at roots or near the roots of trees. Is lime a valuable fertilizer, and how much to a young tree? Will the slaked lime injure the bark if it is thrown against it and left so?—Are tobacco-stems (after they have been ground finely) a valuable fertilizer for fruit-trees?—What varieties of apples are most profitable? I mean, if you were setting out a large orchard, what varieties would you plant? And what aged trees from the nursery would you prefer?"

REPLY:—Unleached oak-wood ashes ought to be worth, in locations where fruit brings a fair price, about ten to twenty cents a bushel. The ashes from hard wood is rich in potash and consequently a good fertilizer where the land needs this material. It should be applied broadcast at the rate of about thirty bushels an acre. Around small trees I would apply two quarts to each. If unleached hard-wood ashes is mixed with ground bone and kept moist it has a tendency to break it down and render the plant-food it contains more easily available to the roots of plants. It is a good way to treat it. If, after being mixed for some time with ashes, the ground bone is mixed in heating manure, it is even more improved. I think it a good plan to whitewash young orchards, but would put in it some Paris green. Soft soap is also a good wash. The advantage coming from using these materials is that while they do not secure entire immunity from any single insect-pest, yet they are repellent and have a tendency to keep insects away.—No, but I think occasional applications of soft soap and lime made the consistency of paint is better to keep out borers. Lime can seldom be used to advantage as a fertilizer, as it is seldom needed in the soil, but where large amounts of stable manure are used, it can be occasionally used to advantage. I do not think slaked lime at all liable to seriously injure the bark of trees.—Tobacco-stems, either whole or ground, is one of the best of fertilizers for fruit-trees, being very rich in potash nitrogen.—For marketing, better plant standard sorts, such as Willow, Rome Beauty, Ben Davis and Baldwin. Would prefer young, thrifty trees one or two years old.

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Our Farm.

NOTES FOR COUNTRY HOME.

TREES AND PLANTS FOR BEES.—While bees are of value in all directions for fruit-growers, and are indeed almost invaluable for the purpose of cross-pollenizing some varieties, it is well to consider that to enable them to make the largest amount of honey we must plant more freely of specific plants and trees. It would be well if half our maples were displaced with basswoods. It is possible to have a grove of these trees on every large farm. The tree is clean, healthy and a rapid grower. The mountain-ash is another tree much liked by the bees and a very profuse bloomer. The tree is small and makes an admirable yard or lawn tree. Its beauty in blossom and fruit makes it especially desirable for very small lawns. The common locust is another good bee-tree. A large amount of honey seems to be made from raspberries, also, and among the garden flowers I would specify the mignonette as useful.

* * *

FARM FLOWERS.—A good list of farm flowers would take in, beside the hardy roses, the gladiolus, dahlias, nasturtiums, sweet-peas, perennial larkspurs, the candidum and lancifolium lilies, also the field-lilies and the day-lilies. Among these the gladiolus should be grown very largely, because of their superb spikes of flowers and the small space taken up by each plant. The dahlia is particularly desirable near kitchen doors, where the warm suds on washing-days can be poured about them. After all, I know of nothing quite equal to the candidum and Japan lilies to take care of themselves and give superb bloom, provided you keep common manure away from them. To this list add a few of the newer cannas. Grow these around the outer edge of your dahlia-beds, and let them have plenty of water—slops from the sink.

* * *

CROW-BLACKBIRD.—The crow-blackbird has been apparently on the increase of late, and is adding his power to that of our bird-wearing women, to destroy our most valuable bird friends. Last spring there was general complaint of their invading our lawns to tear up birds' nests. I have seen them sitting on the edges of robins' nests picking out the dainty morsels for their own breakfasts or carrying them off to feed their young. The crow is certainly a good scavenger, and much can be said in his favor; but the numbers must be reduced if they are not able to feed themselves without destroying the song-birds. The best protection from the crow in our corn-fields is to set up poles with ears of corn tied on them. This makes them suspicious and they will not come near the field. It is a curious remedy, but a good one.

* * *

POLLENIZATION.—This is a subject which farmers generally have little knowledge of; yet it is impossible to grow fruit successfully without understanding that many varieties are unable to pollinize themselves. For instance, the Brighton grape, which is one of the best in existence, will bear no fruit at all unless grown in close relation to other varieties. The pollen from these is carried by insects, or possibly by the wind, to the Brighton, and makes its flowers fertile. It then becomes an enormous fruit-producer. Very few of the pears but need some help in this direction; among others the Anjou is particularly unable to take care of its own pollenization. Keeping bees in the orchard is sure to be of use in this direction.

* * *

THINNING FRUIT.—Every one who wishes for first-rate marketable fruit must adopt the plan of thinning where the trees are overbearing. It is necessary not only to take defective fruit, but a portion of the perfectly formed. This is nature's plan, for she gives always lesser quantity for increased quality. The trouble of this item of work is so great that it is mostly overlooked. The result is a very much increased proportion of second-grade apples and pears.

* * *

WILD FRUITS.—The use of wild fruits has gone out largely of late, not always to the advantage of our culinary department. There is no jelly to surpass that made of wild gooseberries. The elderberry is also

a very useful fruit, as those who have tasted an elderberry tart very well know. The barberry is an excellent fruit for mixing with those which are less tart. There is one fruit on the shrubby lawn which is almost never used, and yet is most delicious for sauces and jellies; I refer to the fruit of the Japan quince. This shrub often bears a heavy crop of quinces about two inches in diameter. Try it.

* * *

ASPARAGUS.—The preparation of an asparagus-bed is a very simple affair, needing very little of the extraordinary care taken by the direction of some of our culturists. Simply get a good garden-bed of rich, deep soil; thoroughly free it of all weeds and weed-seeds. Place in it no raw manure. You can bury in it old bones and shoes, if you like, but they are not a necessary part of the preparation. Set the plants, which should be two years old, in trenches about six inches deep and four feet apart; spread the roots out well, fill in with good soil, and tread it thoroughly down. The old-fashioned way was to burn over the asparagus-bed once a year. A dressing of ashes certainly does it good. Cover the bed in the fall with a coating of old manure, and rake this in the spring.

E. P. POWELL.

THE RED SPIDER.

The mite popularly known as the red spider seems to have been imported from Europe, where it has long been recognized as a serious pest, not only of greenhouse-plants, but also of plants growing out of doors. In the open it has been found most destructive in nurseries, where it has often ruined larch and cedar, as well as other ornamentals and all kinds of fruit stock. It is thus seen to be a very general feeder and hence very difficult to exterminate when once it has gained a foothold. It may often be well established before its presence is even suspected, the grower believing that the blighting and disfiguring of the foliage caused by its attacks is due to some other cause, such as fungi. But although the work of this creature is well known among florists and to a less extent among nurserymen and orchardists, it is probable that few men troubled by the red spider know anything of its life and habits.

The name, "red spider," is incorrectly applied to this mite, since it is neither a spider nor is it always red. The term spider has probably been applied because of the web that it weaves. This web is made in the same way that the web of the true spiders, to which the mites are closely related, is made. A fluid secreted in the creature's body is forced through minute tubes, and as it comes in contact with the air it hardens into a silky thread so fine that it is necessary to use a strong lens to see it. When a number of threads are together, however, as in the web, they often give the under side of leaves, where they usually appear in greatest abundance, a glistening appearance. These mites hide under their webs and suck the juices of the plant, preferring situations along the midrib for this purpose probably on account of the greater supply of sap there. Upon very badly infested leaves, however, they may be found not only upon all parts of the lower side of the leaf, but upon the upper. This mite differs from most of its relatives in having the organs for making these webs.

The eggs (which are colorless, or light yellow, when freshly laid, spherical and large, considering the size of the mite, which is smaller than the head of a small pin), are laid at irregular intervals for several days, depending upon the weather. The period of laying often lasts until after the first-laid eggs have hatched and the young mites have shed their skins once or twice or have even become mature. Under favorable conditions the eggs will hatch in seven days, though frequently ten, twelve and even sixteen days are required when the weather is cold and damp.

The larva has at first six legs, and is of a reddish or yellowish color, which in about two days becomes darker. The creature then remains quiet two days, sheds its coat or skin, and gets two more legs. A second and a third molt follow at intervals of about two days each. The sexual characters may be recognized after the second molt, when a male may often be seen waiting for his prospective mate to shed her skin. He may even assist her in this interesting operation. After pairing, which occurs immediately after the last molt or shedding of the skin, the female waits

from forty-eight hours to a week, according to the weather, before she commences laying. Hence, if all conditions are favorable, only two weeks may elapse from the time an egg is laid until the female hatched from it has matured and is laying. Generally, however, a longer time is required. A female may lay as many as eight or ten eggs in a day, though five is the usual number, and often one or two or even none at all may be laid. As she continues to lay for three or four weeks, one female may easily increase the red spider census by one hundred and fifty.

Should a female fail to be impregnated, she will lay eggs that will hatch into males, with one of which, at his maturity, a union will be made, after which females as well as males will be produced. This case is somewhat akin to that of the queen bee, which, unless fertilized before a certain time, lays eggs that always hatch into drones. One impregnation probably lasts the female red spider for life, another thing peculiar to the queen bee.

It is very generally believed among florists that dry and warm atmosphere favor the increase and spread of the red spider, and that damp and cold air retards their reproduction. Hence it is that florists try to keep the air in their greenhouses saturated with moisture when combating this pest. But, as the result of many experiments under similar conditions to those maintained by the florists, it has been found that moist air, even to the point of saturation, is not fatal to the red spider; and further, that these mites may be immersed in water for even forty-eight hours and yet recover and breed. It seems, therefore, unlikely that the water-vapor method can be as effective as is believed. Still, these mites may not breed as rapidly as in a dry air, for which reason the water method may be found useful. The principal merit of applying water may be the knocking of the creatures from their positions by the force of a spray, this having often been found effective.

Among other remedies for the extermination of this pest, suds made of tar, carbolic, tobacco or whale-oil soap have often proved useful, and so has kerosene emulsion; but the latter cannot always be applied strong enough to kill the eggs, which are extremely resistant, without injuring the plants upon which they rest.

Vaporized sulphur, produced by melting sulphur over an oil-stove, is a very good remedy when used at least once a week for two or three hours at a time, until all the eggs have hatched, which will be about seven weeks from the first fumigation. Extreme care, however, must be exercised to prevent the sulphur from catching fire, a thing it will easily do, since the fumes so produced are deadly to plant growth. This remedy is useful in destroying many fungous diseases, and is perhaps the best remedy for this mite when the houses are filled with vegetable parasites. Of course, fumigation cannot be applied outside the greenhouse.

M. G. KAINS.

RAISING PORK.

A near-by farmer a short time ago killed four eight and one half months' old pigs, which weighed together over 1,200 pounds. He disposed of them for five cents a pound, realizing over sixty dollars. Another farmer of my acquaintance killed a kept-over hog which tipped the scales at 480 pounds. He sold it for four and one half cents, and got \$21.60 as his entire investment. The first man's pigs gave him for his feeding about one pound and three ounces of meat a day from each pig; the other man received one pound a day from his hog; in other words they gained these amounts daily for the entire time they lived. The pigs gained nearly three ounces a day more than the hogs; they brought half a cent more a pound than the hog, with the advantage of feeding little more than half the time with the pigs. The ancestral hog has had his day. The pig which will dress 300 to 375 pounds at eight to ten months of age is the coming hog. The most valuable characteristic of the improved hog is an inclination to grow faster than the ancestral hog. Its habits are changed to the extent that it eats to live and grow. It is cheaper to produce 300 pounds of pork in eight months than to be twice that time in getting 100 pounds more.

* * *

"There are exceptions to all rules," remarked the man who fatted the big porker, after I had stated my views to him on the pork question. "You are right in the

main and, then again, you ain't. It depends upon what you are keeping swine for. If I could have things just to my liking I wouldn't breed from a sow less than two years old—three or four years is better. The hog you speak of raised two litters of pigs, which brought me over forty dollars. I have two more I am keeping for breeders, which are two and three years old. This one got so fat last fall that I thought best to kill her. She brought me quite a lot of cheap money, as her summer keeping with the rest was but little expense. I plowed a good portion of my orchard last year and year before, and seeded it with clover the first year, and last sowed oats and peas, and let the swine have the run, and they did well. I am keeping the Yorkshire and Ohio Improved Chester swine, and the two breeds can't be beat for the general farmer's use.

"Yes, you are right in your ideas of young pork for profit. You think our neighbor over yonder did well; so he did, but I can go him one better. My eight-months' pigs last fall, four of them, dressed from 380 to 410 pounds. I sold them all to one man in Boston for six cents a pound. Give the pigs growing food in abundance as soon as they will eat it, do the fattening the last two months, but give me the old hogs for breeders every time."

L. F. ABBOTT.

CORRESPONDENCE.

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Our Farm.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hammonton, New Jersey.

EGGS PAY IN SUMMER.

IF eggs are higher in winter it is because they cost more in that season. As has been frequently affirmed, eggs cost little or nothing in summer. If the hens are on a large range, and will then pay, even if prices are low. If eggs are thirty-five cents a dozen the real food material costs the consumer about twenty-five cents a pound, but when eggs are fifteen cents a dozen the consumer gets about two and one fourth pounds of food material for twenty-five cents, or according to ruling prices. But in both cases the farmer sends away the same proportion of material from his farm, and whether the hen picks the food up herself or is given her share by her owner the loss of that much value from the farm occurs. But the hen on the range utilizes materials that the farmer cannot sell. A dairy young weed, a piece of boue, insects, seeds, grass and refuse thrown away are all made to do service by the hen in converting them into eggs. It will pay in winter to save food by keeping the hens warm. If they are not well sheltered more corn will be necessary to heat their bodies. Shelter is not really food, but it serves to economize in its use for preventing waste of corn in the form of heat. In summer they must be given cool quarters and little or no grain.

WARM WEATHER AND DISEASE.

It is rarely that roup appears in summer among healthy fowls, but fowls may be thrown out of condition, perhaps made very fat, by overfeeding with grain during warm weather. When grain is fed too heavily and the fowls are fat, have indigestion, heart disease, etc., they will sometimes droop, but the symptoms may also be caused by the large lice which exist on the skin of the heads and under the throats, as they prevent sleep and rest, leading to exhaustion. The best remedy is to anoint the fowls on the heads and necks with olive-oil or melted lard, using only a small quantity twice a week, and change the food, allowing but one meal a day, at night, which should consist of an ounce of lean meat. This diet should continue for about two weeks. After that grain should be used for at least a month. For two or three days a teaspoonful of tincture of nux vomica may be added to every gallon of the drinking-water. The males should be removed from the hens and the poultry-house cleaned thoroughly in order to get rid of the mites. The hens will thrive best on a range.

WEIGHTS OF HENS.

When a Leghorn hen weighs five and one half pounds, or even five pounds, she is fat, and when a Plymouth Rock hen gets up to eight pounds, or a Brahma reaches ten pounds, she is getting too fat. The best signs, other than weighing them, is their sluggish movement, their desire to wait for their food instead of scratching, broad appearance behind, falling of the belly (near or rear), especially with old hens, a smooth, glassy appearance, often red on the hind portion of the body, with perhaps loss of feathers. Body deep and a heavy appearance are also signs. One or all of these indications are to be observed, but the surest plan is to kill one supposed to be fat, and she will show nearly the condition of all others in the flock if the food has been heavily of grain.

SOILS FOR POULTRY.

Light sandy soil should be preferred for poultry. The best thing to do with a clay soil is to drain it, if possible. But if such is impossible the house should be on the highest point and dirt filled in until the floor under the house is raised above the outside level, in order to avoid dampness under the floor (which should be of boards). It is of no advantage to have the foundation walls as high as three or four feet. If the land has an inclination to roll, a few tiles under the soil and about a foot or two above the surface will probably drain it well. Dampness in spring or fall is more injurious than severe cold in winter.

DOUGLASS MIXTURE.

Dougllass mixture is composed of one ounce of copperas, one ounce of sulphuric acid and half a gallon of water. It is recommended as a tonic for fowls, but is really a poison, and while its use once a week may do no harm, the practice of using it as a regular tonic will result in the destruction of the flock. The free sulphuric acid (oil of vitriol) attacks all organic substances, and the fowl is no exception. In experiments made, in which a teaspoonful of the mixture was added to a gallon of drinking-water, the fowls were apparently improved in appetite for a few days, but gradually declined and finally became weak and debilitated. Examination of the fowls that were killed showed the liver to be very large and soft, while small tumors were noticed. The intestines contained red sores, as though the lining membranes had been rubbed off. The throats were affected with small tumors, and every portion of the bodies seemed affected in some way. If a bird is healthy it needs no such tonic, and so far as Dougllass mixture is concerned it should be avoided.

QUALITY AND PRICES.

One reason why the farmer gets low prices is because he does not believe in the use of pure breeds. One kind of fowl to him is as good as any other, yet he never made a greater mistake than in entertaining such a supposition. It may be urged that feed gives quality, and so it does, but something depends on the machine that works up the raw material. The best of wool may be in a piece of cloth, or superior leather may be worked into shoes, but the quality of the cloth and shoes will be according to the skill and efficiency of the man and the machine that changes the raw material into more salable articles. All the food that may be allowed will not enable a scrub fowl to give the quality of meat that is produced by the Game or Dorking. A fowl weighing eight pounds will bring more than one weighing only six, and need cost no more, and two or three or even five cents a pound gross adds quite a sum to the value of the bird in market. It is the car-loads of scrubs which make prices low. They arrive daily, only to be sacrificed, the shipper complaining that "poultry does not pay" because he does not believe in pure breeds.

MOLTING FOWLS.

The only fowls that require help in the summer and fall are the molting hens, and the best food for them is such as will assist in producing feathers. Linseed-meal is the best of all foods for molting hens, and the proper way to give it is to make a cooked bread composed of four parts bran, one part ground meat and one part linseed-meal, giving one meal a day and allowing the hens to pick up grass and insects. It is also excellent for laying hens, and may be given them at night, allowing a meal of lean meat in the morning, but the non-layers should receive no food whatever on a range, nor should foods be given fat hens.

YOUNG CHICKS AND TURKEYS.

Young chicks can endure more hardships at first than young turkeys, but after the turkeys are three months old they are hardy. There are no very young turkeys late in summer, but those that are intended for sale at Thanksgiving must grow rapidly or they will not be of large size by that time. With a good range the young turkeys will grow, but there is one thing that will keep them back—the large lice on their heads. Be sure and rub a little sweet-oil on the heads, necks and throats once a week, and rub it in well.

A LOW WAGON AT A LOW PRICE.

The money-making farmer of to-day wants a low built, easily loaded, easily unloaded, light draft, powerful short turn "Handy" farm wagon; a wagon that will save the farmer's own back, save his horses, save his hired labor and save his money.



This wagon is built by the Empire Manufacturing Co., Quincy, Ill. It is only 25 inches high with 4-inch tired wheels, and is sold for the low price of \$19.95. This firm also manufactures metal wheels any size, any width of tire, hubs to fit any sized axle. Write for catalogue.

GREEN CUT BONE.

Very few men would hesitate to invest five cents to increase the production of eggs from a single hen, and the man who keeps a hundred hens and will invest five dollars in a bone-mill always will be able to furnish his hens with the best egg-food ever fed. One of these bone-mills will cut green bones, to which adheres some flesh and ligaments, into shavings which a hen can swallow easily. These bones may be bought of the butcher in the nearest town for a cent or two a pound, and two ounces to each hen every week is sufficient for every purpose.

Green bones are full of the very kind of nutriment that the laying hen needs. They contain carbonate of lime, six to seven per cent; phosphate of lime, fifty-eight to sixty-three per cent; phosphate of magnesia, one to two per cent; fluoride of calcium, two per cent, and animal matter, twenty-five to thirty per cent, the remainder of their weight being water.

It takes but a few minutes to cut enough bones for one hundred hens, and there is no combination of feeds that will stimulate egg-production as this one will.

Where fresh green bones cannot be got, the dry bones that may be picked up on almost any farm may be broken and crushed with but little trouble, and will be found valuable, but not so much so as the green ones, as the animal matter has disappeared from them.

No matter if the hens do have the run of the farm. There are many farms where chickens have been kept so long that lime-stones and other egg-forming materials have been used up, and this must be supplied or eggs cannot be produced. All grains have a small quantity of lime in them, but not enough to furnish egg-shell material for a hen that is laying regularly. —Farmer's Voice.

PRESERVING EGGS.

When eggs bring a low price there is a desire to preserve them in some manner so as to get better prices in the fall. The question is frequently asked how can eggs be preserved to the best advantage? The first point to consider is that the eggs must be fresh and must not be bought from neighbors, as a single bad egg will injure all. The next is that eggs from hens that are not with males will keep three times as long as those that contain the germs of chicks, hence all males must be removed from the yards, as the hens will lay as many eggs without their presence. All depends upon this one point of no males. Violate that rule and the effort will be useless in the preserving of eggs. Eggs must be kept cool, not higher than sixty degrees; a cellar is an excellent place. Put them in an airy box, or lay them on racks, so as to turn them twice a week by turning the box up side down, and no solutions of lime or salt or any other substance will be required. They will keep for three or four months, having a much better appearance than limed eggs or those preserved in any other manner.

WHEN TO SELL THE MALES.

Estimate the cost of keeping one male a year and it will be found that it is not less than fifty cents. Send him to market when a year old and he will not bring over six cents a pound. In fact, it is seldom that a male pays for his food when he is sold. His food is cheapest in the summer, because he can secure a share by foraging, the main cost being in winter. Do not keep a single male more than you require, and do not retain even one after he is no longer a necessity. Do like the bees with the drones, which is to permit them to remain only for a time, and then give them no place among the others. Economize by feeding no fowl that does not pay more than the cost of its food. Sell all males before they are four months old, as they then bring good prices as roasters.

CRUELTY IN SHIPPING FOWLS.

It is almost a revolting spectacle to those who detest cruelty to dumb creatures to visit a place where fowls are sold in coops on commission. Load after load of coops arrive on the hottest of days, with the poor birds almost as closely packed in them as sardines in a box. There may be a tin cup of water at some point in the coop, but the birds do not know of it and could not reach the water if they endeavored to do so. Not one coop in a dozen arrives in market that indicates for the shipper one

spark of mercy or sympathy for the poor creatures. Many of the birds will be dead on arrival, and with the excessive heat of the atmosphere, the animal heat of their bodies and the fatigue and fright of the journey there is a loss of weight in those that survive. These same farmers hurl maledictions on the heads of the commission merchant because he deducts in his bill the "shrinkage" in weight, forgetting that they alone are at fault in creating conditions for loss. In saving a small sum in the cost of coops, and crowding the fowls, the shipper is really extravagant, as he not only loses some of the birds, but causes the dealer to sacrifice the remainder at a low price to save further loss.

TARRED FELT FOR ROOFS.

Although tarred-paper roofs are preferred for winter, yet they can be put on to advantage during the summer. They make the cheapest and best roofs if the work is well done. Fasten the felt (paper) in places and paint it with coal-tar, using the tar hot, and throw enough sand on it to prevent the coal-tar from running off. In three months thereafter give another coating of tar and sand, and then a coating once a year. Such a roof will last a lifetime.

INQUIRIES ANSWERED.

Light Brahmas.—E. E., Steubenville, Ohio, writes: "What is the standard weight of Light Brahmas?"

REPLY:—The cock should weigh twelve pounds, and the hen nine and one half pounds.

Clover.—J. B. C., Port Dickinson, N. Y., writes: "What variety of clover is best for fowls to be fed on in winter?"

REPLY:—The common red variety is preferred, the second growth being cut. For summer use, the hens to be on a range, white clover is better.

Bowel Disease.—C. D., writes: "My chicks have diarrhea, lose the use of their limbs, refuse to eat, and die in a few days."

REPLY:—It is difficult to give a satisfactory reply unless your mode of management was known. They may have eaten something which is injurious, or the diet may not be sufficiently varied. Examine for lice, and give cooked lean meat and bread dipped in milk.

Weak Legs.—E. P. B., Brookville, Pa., writes: "My chicks are well fed, have good quarters, are not lousy, but lose the use of their legs. They are two weeks old."

REPLY:—It is probably caused by forcing them too rapidly, by heavy feeding, though the difficulty may be caused by using sulphur, which is sometimes given as a medicine. Feed only three times a day, giving millet-seed at noon. Allow anything that they will eat.

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Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Growing Celery.—J. M. T. Ethel, Mo., writes: "Please tell how to raise celery, and oblige a subscriber."

REPLY BY T. GREINER:—Look for information in the farm and garden department of this issue of FARM AND FIRESIDE.

Killing Willows and Alders.—T. S., College Springs, Iowa. Willows, alders, etc., should be cut at that time in the summer when they have finished their greatest growth. The roots are weakest just before the sap begins the return flow. If young sprouts appear, cut them off promptly. Deprived of leaves the roots must die.

Blister-beetle on Asters.—N. A., Van Wert, Ohio, writes: "Please tell what will keep a long, slim, black bug from eating the asters. They eat the outside of the flowers in a short time."

REPLY BY T. GREINER:—Probably the enemy is the blister-beetle. Drive them away to one side to a row of straw or rubbish, and set fire to it.

Killing Dandelions in Lawn.—J. R. B., Shoshone Agency, Wyo., writes: "Tell me how to kill dandelions without injuring the grass."

REPLY:—Cut off the plants below the crown of the root with a chisel-shaped weed-spudd or case-knife with square and sharpened end. Another method is to drop a few drops of kerosene on each plant from a spring-bottom oil-can.

Fly-repeller Spray.—S. F., Coleridge, Neb., writes: "Please give receipt for spray for keeping flies off cattle."

REPLY:—One of the best fly-repellers is made of one pint of oil of tar (cheap grade), one pint of kerosene and one tablespoonful of crude carbolic acid, well mixed by shaking. Spray this mixture over the whole body of the animal every two or three days during the fly season.

Selling Cucumbers.—Miss A. D., Maysville, N. Y., writes: "Please tell me where I can sell my cucumbers. I wish to make a little money, as I am not strong."

REPLY BY T. GREINER:—The selling part is often the more difficult part of the business. Raise good stuff, and then let people who want it know that you have got it. Try in a modest way at first; after that you may plant more largely.

Growing Ground Sets.—W. S. H., Mexico, Mo., writes: "Please tell me when and how to plant onion-seed to grow ground sets."

REPLY BY T. GREINER:—Prepare the ground in same way as you would for fall onions. A soil of sandy character and free from weeds is best. Sow seed in drills ten inches to a foot apart, using about sixty pounds of seed to an acre. Hoe frequently. Take up in the fall after tops have begun to fall over. Cure the bulbs thoroughly and store in a cool and dry place.

VETERINARY.

Conducted by Dr. H. J. Detmers.

To regular subscribers of FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered under any circumstances.

Old Age.—J. B., Mohemenco, Va. It seems that old age constitutes the chief ailment of your mare.

Bloody Milk.—M. R., Golden, Kansas. Please consult answer given to P. J. C., Edna, Minn., in FARM AND FIRESIDE of June 1st.

Garget.—M. L. S., Kent, Ohio, L. B., Canterbury, Conn., R. W., Houston, Tex., and G. A. B., Westchester, Conn. Please consult answer given to P. J. C., Edna, Minn., in FARM AND FIRESIDE of June 1st. In addition I will only remark that only milking a good milk-cow in full milk twice a day is altogether insufficient, particularly during the warm season of the year.

A Lame Horse.—L. A. Y., Wagner Station, Ind. All that can be learned from your communication is that your horse has been lame for several months, that you do not know whether the lameness is in the shoulder or in the foot, and that the blacksmith has said that the feet are tender. Therefore the only advice I can give you is to have the horse examined by a competent veterinarian.

Possibly a Case of Ringworm.—C. M. H., Nelson, Ky. What you describe may possibly be a case of ringworm, and if so, a few applications of tincture of iodine to the sore spots and a thorough cleaning and disinfection of the premises, but particularly of the grooming utensils, so as to prevent a reinfection, will effect a cure. But as your description is rather indefinite, I am not so sure about the diagnosis, and it may be best to have the colt examined by a veterinarian.

Lost Her Calf.—H. D., Succasunna, N. J. If your two-year-old heifer, which prematurely lost her calf, is such a pretty animal as you say she is, it may be worth while to give her another chance and to breed her once more, notwithstanding that she will be much more apt to again lose her calf at about the same period of gestation than a cow which never had an abortion. If, however, your heifer should show any symptoms of tuberculosis, the great curse of our dairy cattle, the case is different, and in that case my advice would be to dispose of your pretty heifer as soon as possible. It looks a little suspicious that her sister, too, lost her calf.

Maugy and Full of Worms.—C. M., Dunbar, Neb. It will be much cheaper and in the end much more satisfactory to get a new dog than to undergo all the trouble and to bestow all the labor required by the treatment of a four-months-old pup that is maugy and full of worms; but before you get a new dog you will have to clean and disinfect the sleeping-places, etc., of the maugy dog, because if this is neglected the new dog will soon be affected with the same disease.

A Crippled Cow.—W. J. F., Poland, Ohio. When your cow broke down (fell) in January it is much more probable that the head of the femur became fractured than that a real luxation took place. But however that may be, the result will be the same, and a restoration to a normal condition is impossible in either case. Your cow will remain a cripple as long as she lives, although she will learn to walk about sufficiently to get all the grass she wants in pasture. You cannot do anything in the way of treatment.

Diseased Hogs—Flies on Horses.—J. H., Hausertown, Ind. Symptoms like those you mention can be observed, associated with others you do not mention, in several diseases; for instance, in swine-plague, in trichinosis, in so-called measles (a disease caused by the presence of the cystworm, *Cysticercus cellulosae*, if present in large numbers in the connective tissues), etc.; but if those symptoms you have mentioned are the only ones that can be observed I cannot answer your question.—It is claimed that flies will not attack horses if the latter have been washed with a decoction of walnut-leaves.

Metritis—Diabetes.—J. R. B., Orlando, Va. Your cow died of metritis (inflammation of the uterus), and although heavy food, such as rye, was not indicated, it cannot be claimed that the rye-meal acted in any way as the cause of the disease of which your cow died.—Diabetes in horses is most frequently caused by eating musty food, musty oats in particular, and of course in order to effect a cure, first the causes must be removed. There are, however, horses which, when at work, often stop and press out a little urine simply to take a rest, but these horses do not urinate any oftener than others when in the stable, while those suffering from diabetes urinate about just as often when at rest as when working, and soon show more or less emaciation and weakness.

A Cutaneous Eruption.—W. A. W., Wilksville, N. C. It may be that the disease of your mule, which you describe as "a breaking out all over with little humps in the skin," first beginning on the legs above the hoofs like scratches, is identical with so-called scratches. If such is the case see to it that the legs of the animal are properly cleaned at least once a day, not with water, but with a wisp of straw or hay and a good brush, and that the animal is as much as possible kept out of wet and mud. As to treatment apply two or three times a day to all the little sores a mixture of liquid subacetate (not acetate) of lead, one part, and olive-oil, three parts, and a cure will soon be effected if the animal is kept in a dry place. A fetid smell of the excrements of the mule is nothing more nor less than a sure sign that the mule has consumed more food than he is able to digest.

Milks Herself.—N. N. J., Southbridge, Mass. If you are sure that your cow acts as her own milkmaid, you can easily spoil her in that business. Get her a halter made with a strong leather nose-band, and put in the nose-band two rows of sharp and pointed nails, in the lower row pointing downward and in the upper row slightly pointing upward. Then send her to pasture with the halter on and she will attempt the milking business just once more, and then, if the halter is well-made and the nails are in the right place, she will be disgusted and attempt it no more. I would advise you, though, to leave the halter on for a few weeks, otherwise she might find out that it is simply the halter that makes the milking so unpleasant. In case you should be mistaken and find that she permits herself to be milked by another cow, then put the halter on the other cow and she will receive a welcome that will not soon be forgotten.

Dying Lambs.—F. F., Amana, Iowa. The epizootic dying of lambs in your neighborhood, particularly now since wool is again worth something, ought to be investigated by your state authorities. Although I will not say that the disease you describe is anthrax, one of the most fatal diseases known, your very good description corresponds to that disease. If your state authorities should refuse to make an investigation I will help you to arrive at a definite diagnosis. Take a heavy silk thread a few inches long, dip it for a few minutes in boiling water and then in the blood of a lamb that has just died. This done, dry the silk thread outdoors with the blood adhering. When dry wrap it up in a little tinfoil, inclose it in a small, so-called homeopathic vial, and then send the latter to me well corked. It will be well to wind around the tinfoil a little absorbent cotton before it is put into the vial in order to prevent any friction and shaking up.

Vitiated Appetite.—P. H., Le Roy, N. Y. There must be something radically wrong with the food your cattle receive, otherwise they would not endeavor to eat the fences, sides of the stable, etc. Their food undoubtedly lacks sufficient quantities of nitrogenous compounds, phosphates and lime salts, or is too rich in acids. Make a thorough change in their diet, and if no other suitable food is available, feed large quantities of bran. If good clover is available, feed that. If your cows are in pasture, manure the same with bone-meal and superphosphates. By way of a medicinal treatment, which, however, will do no good for any length of time, unless a suitable diet is provided, let a veterinarian give each animal once a day for three days in succession a hypodermic injection of three grains (0.2 gram) of hydrochlorate of apomorphine. If your cows are not already too low down, and you follow my advice in every particular, a cure will be effected in a comparatively short time.

A Subject for the Tuberculin Test.—F. K., Linden, N. J. The symptoms of your cow, of which you have given a very intelligent description, are such as are observed in bovine tuberculosis. Still this does not mean that your cow necessarily is tuberculous, for the same or very similar symptoms can also be produced by other cause, but it does mean that it is very advisable to apply the tuberculin test and thus to secure a reliable diagnosis. Space will not allow to write a lengthy treatise on tuberculosis, but as the subject is of the utmost importance, I will direct the attention of yourself and others to Bulletin No. 79, published in April, 1898, by the experiment station of the Kansas state agricultural college at Manhattan, Kan., which contains on about twenty-eight pages all the essential and up-to-date facts about tuberculosis of cattle in plain English and in

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Pamphlet containing sample shades, and giving directions for mixing and applying, sent free upon application.

a very concise form. It also gives a description of the application of the tuberculin test and its effects upon the animals to which it is applied. Dr. Paul Fischer, who is known to me not only as a scientist, but also as a conscientious and reliable man, is the author. I have no doubt that the bulletin can be obtained by addressing the president of the Kansas State Agricultural College, Prof. Thos. E. Will, Manhattan, Kan.

A Roarer.—J. B., Bloomery, West Virginia. According to your description there can be no doubt that your horse is a genuine roarer. Roaring manifests its presence exactly as you describe it, and is caused in a vast majority of cases at least by paralysis of one of the recurrent nerves, usually the left one, and as a consequence by a paralysis of the laryngeal muscles which have the office of opening the glottis at the act of inspiration, hence the sound produced at that act if more air is required than can be admitted to the lungs by the narrow opening of the half-closed glottis. At the expiration no sound is produced simply because the affected arytenoid cartilage (the two arytenoid cartilages may be compared to a double door, which, when shut, closes the glottis) will yield to, and he swung open by the force of the air coming from the lungs, whereas at the inspiration it will be closed by the force of the current coming from without. The only remedy consists in a surgical operation by which the non-opening arytenoid cartilage is removed. It is an operation, however, which requires for its performance a first-class surgeon, and even if correctly performed it has not in all cases the desired effect of removing every trace of roaring, but it destroys the voice of the horse.

Probably a Tapeworm.—E. A. D., McKeesport, Pa. All that can be learned from your communication is the probability of your dog having tapeworms. Dogs, however, may harbor five different kinds of tapeworms, which come from different sources; so, for instance, the larvae or cysts of one kind occur in rabbits, of another in the brain and spinal cord of sheep and other ruminating animals, of a third in various organs, but especially on the serous membranes of several domestic animals, of a fourth in different internal organs of ruminating animals, hogs, and even human beings, and of a fifth, according to Melnikow, in the dog-louse (*Trichodectes canis*). It stands to reason that it can do but little good to drive off tapeworms, if the source from whence they come is not known, and therefore cannot be closed. Besides this, two other tapeworms, like entozoa, *Pentastomum taenioides* and *Botriocephalus canis*, also occur in dogs, the former in the nasal cavities and frontal and maxillary sinuses, and the latter in the intestines. Furthermore, if one is asked to prescribe for a dog particularly heroically acting medicines, such as are required to expel tapeworms, he must be informed of the size, approximate weight and age of the dog; but you do not say whether your dog is a small lap-dog or a big mastiff or St. Bernard, whether the same weighs one and one half pounds or one hundred and seventy-five pounds, therefore I have to advise you to have your dog examined and treated by a local veterinarian.

Cellulitis.—C. D., Grass Lake, Mich. The oedematous swelling of the inside of the hind leg of your mare extending to the udder is of an infectious nature, and very likely small wounds or lesions existed through which the infectious principle found an entrance; for instance, small lesions caused by interfering, etc. When this reaches you the inflammation of the connective tissues and the swelling and lameness either have disappeared or have become chronic. If the animal with its swelled leg has been kept in a wet place, or if, unfortunately, cold water has been applied, the swelling very likely has become chronic and permanent, or even abscesses may have been produced. Not knowing what may happen before this reaches you it will do no good to map out a treatment. I will therefore only briefly indicate what ought to be done in the beginning of the disease. First, the animal must be kept in an absolutely dry and clean place; if any sores can be discovered, the same must be disinfected and be dressed with a little iodoforn; where the worst swelling has developed, usually on the median surface of the leg, along the course of the principal vein, the vena saphena, once a day a little gray mercurial ointment should be thoroughly rubbed in, and then if the animal is in the least costive a physic should be given. As soon as the swelling has subsided and the pain sufficiently decreased, the animal should have some gentle exercise on dry and level ground. That the swelled leg must be kept clean without using any cold water may not need any explanation.

The Feed of a Horse.—J. C. R., Cincinnati, Ohio. The kind and amount of food to be fed to a horse depends upon a great many things which all have to be taken into consideration; for instance, the size, age, build or make-up, temperament and condition of the animal itself, the kind of work the same has to perform, the season of the year, the time allowed for eating and the inauguration of the process of digestion, and last, but by no means least, an impaired or unimpaired power of diges-

Many Fail; One Succeeds.



"A scientific marvel" is what the best mechanical judges say of the SAFETY HAND SEPARATOR.

Many concerns have tried to put out machines equally as good. They have tried to capture the farmers' trade by lower prices, only to find out, when too

late, that a good separator can not be made for less money. It has no real competitor.

BRANCHES: P. M. SHARPLES, West Chester, Pa.
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tion and assimilation. Thus it may happen that the same amount and kind of food just right for one horse is excessive for another, and insufficient for a third one. Such is particularly the case if much soft or "prepared" food is fed, because food of this kind not only has a tendency to weaken the power of digestion, but is also very often devoured in too great a haste, and in that way becomes productive of digestive disorders. Further, it must not be lost sight of the fact that an excess of food, especially if the power of digestion has been weakened, either by too much sloppy or prepared food, by an insufficient time allowed for eating, or by any other causes, very often constitutes a cause of unthriftiness. An excess of food that is not or cannot be properly digested necessarily incommodates the animal organism and interferes with the process of nutrition. Such, it seems, is the case in your horse. As to your specific questions, what and how much to feed, and how to prepare the food, the same can be answered only by a competent veterinarian after he has ascertained and investigated all the facts having any bearing upon the case in question. You will have no difficulty to find one in Cincinnati.

Warts.—B. G. W., Clayton, N. Y., L. H., Tenaha, Texas, and S. B. V. N., Chesaning, Mich. Warts, as a rule, will disappear in the course of time if not irritated and left alone. They can also be removed by various means, which, however, are not alike applicable to all cases. So, for instance, large warts with a plainly developed neck are usually best removed by means of a ligature drawn as tightly as possible and applied as closely to the skin as it can be done. Large flat warts, or sessile warts without a neck, are probably best removed by a judicious use of caustics. Pure nitric acid applied every minute or two by means of a small piece of "surgeon's" sponge, securely fastened to a stick of convenient length, until the thickness of the wart has been reduced to about one third of its former size, will do the work. Of course care must be taken not to bring the acid in contact with anything but the wart. If the operation is well performed the remaining one third of the former thickness of the wart, having become permeated by the acid, will soon disappear. If it should not, a renewed application will be required. Small warts situated on delicate skin, for instance on an eyelid, can also be removed by caustics, but the application must be a very careful one and it will be best to leave the same to a veterinarian. A concentrated solution of corrosive sublimate in strong alcohol to be applied with a camel's-hair pencil, say every two or three minutes, until the wart is covered with a distinct layer of corrosive sublimate will do the work, and if the application is well made it is very seldom that a second one will be required. Some warts will yield to repeated applications of strong vinegar, while others again are most conveniently removed by means of the surgical knife or scissors, followed immediately by an application of some caustic that will also stop the bleeding. A few applications of carbolic acid, first concentrated (to be applied to nothing but the root of the wart), and then a five-percent solution in water will answer. To attempt to remove warts on the udder or teats of a cow while the latter is in milk is worse than useless, and this can and should only be done while the cow is dry or not milk-producing. How the same have to be removed will depend upon circumstances. As a rule it should be done only by a veterinarian. If warts are caused to bleed and the blood is allowed to come in contact with any small sore or lesion, more warts will be the consequence. Therefore, whenever a wart bleeds a caustic which also stops the bleeding should at once be applied.

Our Fireside.

A SONG FOR THE FLEET.

A song for them one and all,
The sister ships of the Maine;
They have sailed at a nation's battle call
To save a land from a tyrant's thrall
That has struggled long in vain!

The coming days shall speak
The praise of our valiant tars!
No fear they will wanting prove or weak,
When proudly flutters from every peak
The glorious stripes and stars!

And a cheer for the valorous ones
On the dawn of the Sabbath day,
When the shot that the gallant Dewey hurled
Crushed the hopes of the Spanish world
In the far Manila bay!

And a cheer for the valorous ones
Who are girt for the gory fight,
Where the tropic tide-race swirls and runs
Under the frown of the Morro's guns—
And God be with the right!
Clinton Scollard, in Leslie's Weekly.

A TRUE KNIGHT OF LABOR

BY KATE TANNATT WOODS.

Author of "A Fair Maid of Marblehead," "The Wooing of Grandmother Grey," "Hidden for Years," "The Minister's Secret," "Hester Heworth," "Sophia Blount, Spinster," "Six Little Rebels," "Dr. Dick," "Mopsy," Etc., Etc.

CHAPTER XVI.

SIMON PENHURST.



MR. CROSSMAN and her old friend, Mrs. Carroll, had a most charming visit while the gentlemen arranged their business. The ladies had been separated for nearly eight years, and in the meantime Mrs. Carroll had lost her husband and her fortune, and her son had taken a Ph.D. degree and

gone to work to carve his way as a practical chemist and expert in metals. His present abode did not offer many attractions to one so refined as his mother, and she was left in a small country town to minister to the wants of an invalid relative while her beloved boy worked hard. They were quite as happy as in the old days. Mrs. Carroll knew very well that strong characters are never made in soft places; and as character-building is the basis of all national progress, she never mourned over her lost thousands, save when she was desirous of doing something for others.

Her son would be a stronger man for his struggles, and if she missed some of the luxuries which were part of her inheritance, why, no one should be the wiser, least of all, Rufus.

Her short visit with her boy was a season of rare pleasure. She had seen very little of his friend Joe, and had not heard the music the young men had intended to play for her. Joe was too busy. He had taken a position of responsibility at the works, and he intended to make his services valuable to the company; nothing short of honest, faithful work suited Joe. Then his private affairs troubled him; he was anxious to hear of Miss Perkins' success, and sometimes blamed himself for letting such a young girl assume so great a risk.

Jack Hurd laughed at him.

"Why, Rivington, it's a jolly adventure for her; and when your case is all cleared up and the clouds have rolled by, don't you see that her experience will not only bring in the shekels for her, but will give her notoriety which will set her up among all newspaper men?"

"It is not pleasant to think of that kind of notoriety for such a young girl," said Joe. "If I had a sister, as I once had, she should never run such a risk, and I have thought myself a little selfish to allow it."

"Business, Rivington, pure business; it is hers to forget our matters, and yours to employ her. To-morrow her uncle must visit her, and I'll wager that Molly will be glad to see him and will have rare news for us; the girl is full of pluck and energy."

Joe was impatient for tidings. All communications from her were to go direct to Jack Hurd, and so much interest did that busy man display in the case that he gave up a trip West and remained in town.

When Mr. Simon Penhurst presented his card at the "Retreat" he was informed that Miss Penhurst was engaged in making a sketch of the grounds from a little balcony, and had as her companion one of the patients, Mrs. Unwin, also an attendant of that lady.

"Let me go to them," said Uncle Simon. "It will be wiser, and they should not be disturbed."

The old man, dressed in the garb of a friend, walked through the long halls and corridors, wearing his broad-brimmed hat pressed closely down upon his long gray hair.

He saw a few women walking about, and was stopped by others to inquire for friends outside. Nothing disturbed his serenity; and when his guide opened the balcony door, and said, "Miss Penhurst, your uncle wishes to see you," he greeted her with a kiss which brought the color into her cheeks. "Don't go, dear Mrs. Unwin," she said, "don't leave me; I want uncle to know you; I am sure that he has met friends of yours abroad."

The attendant did not see the little wink of the mischievous eyes which accompanied this remark. Mrs. Unwin, with a few polite apologies, remained. She was a tall, graceful woman, with a youthful complexion, which contrasted strangely with her hair, now almost snowy white. Her face bore the marks of great sorrow patiently endured. No one could think for a moment of violence on the part of such a woman. She had been reading one of Coleridge's poems aloud to her friend when the uncle entered.

"I could not live without Mrs. Unwin," said the younger woman, "and I am feeling better every day. Our attendant is such a dear, good girl; she allows us to sketch and read and do as we like most of the time."

Molly smiled upon the attendant, and nodded her pretty head, while Uncle Simon opened a long, flat pocketbook which he had abstracted from his gray coat-pocket, and quietly handed the attendant a bill.

"Just a little keepsake, thee knows, for thy great kindness to Marion here, and if thee can, would thee bring me a glass of water?"

The attendant hurried out to procure it, and in his absence a thick letter was transferred from the bosom of Miss Penhurst's dress to the interior pocket of Uncle Simon's coat.

"The next time," she said, quickly, "you must bring the photographs Mrs. Unwin wants."

When the attendant returned Mollie was eagerly explaining that the large tree in the

for a short time that we must be separated. More depends on thy good care, friend Annie, than on the doctor's skill, however wise he may be. Is he not here to-day?"

"He has gone away to spend the Sabbath with friends; but told me that you were to see your niece, sir."

"That is right; we placed her here with that understanding. And now, friend Annie, if thee will bring me a plate I will give thee ladies some fruit and nuts which I have brought from the city for them."

"Bring the little fruit-basket from my table, Annie," said Mrs. Unwin.

Two long flights of stairs were necessary to do this; and no sooner had she left them than the old uncle became imbued with new life. "Madam," he said to Mrs. Unwin, "take courage. Your child is well cared for, and Joe Rivington is working night and day for you. Through him we are here to aid you, and caution is necessary."

"And my brother, where is he? Why does he not help me? Is he dead?"

"He is not free to help at present. The same hand which turned the bolts on you has done the same for him; but Rivington has all well controlled, and the day is beginning to break."

"God bless him for his goodness," said the lady, fervently. "Tell him to keep my darling child from forgetting me."

"I will."

As he spoke the attendant returned.

CHAPTER XVII.

MRS. GOLDEN MAKES A DISCOVERY.

If Jack Hurd's office had not been in the upper part of an immense building in "Newspaper Row" his hearty laugh might have been heard a mile when he read the letter of his protegee, now known as Marion Penhurst.



CELESTE LAY UNCONSCIOUS ON THE FLOOR.

background of her picture was not quite dark enough, and she must change it.

"You see, Mrs. Unwin was an artist before she came here, and worked too hard at her profession."

Another quick glance at Mrs. Unwin escaped the vision of the nurse.

"At first, dear uncle, we had another girl, one for each of us, but I could not bear the one I had, and so I beguiled the doctor to let one answer for us both. Annie has only been here for a little while, but she is a real comfort, isn't she, Mrs. Unwin?"

"She is very kind and quiet," said the lady, speaking for the first time, in a low, musical voice. "Miss Penhurst is like a thoughtful sister to me."

"There, uncle," said the irrepressible Molly, "there, you see, now, that I am of some use; and when I go home I shall paint a picture that will make your eyes stare wide open, and all on account of dear Mrs. Unwin, who has taught me so much."

"Thee must get well fast, my child, for next month it is our quarterly meeting, and I shall need thee."

"I shall come, uncle; and I will bring Mrs. Unwin with me for a visit."

"She will be more than welcome, and her maid, also," said the old man, with a nod of the head toward Annie.

"You are very kind, sir," said Annie, who, until the advent of the willful Molly, had been only known as Miss Downs; "you are very kind, but no one can go out here without special permission, save for a walk in the grounds, and therefore my patient could not leave. When my vacation comes it will give me great pleasure to see Miss Penhurst again, if she leaves us so soon."

"Do all in thy power for her and for her friend, whose family I know and whose friends are so true to her. Thee can see how hard it is for them both, and we can thank the good Father of all that it is only

"It is a tragedy," said he, "the bitterest kind of tragedy; but that girl's way of putting it is irresistible. I must get this to Rivington and have his lawyer see it, also. I tell you what it is, when you have a snarl to unravel your journalist is the man to do it. This case will wake up people all over the land, for a time; and then, alas for humanity, they will settle down and the bad business will go on again."

Jack Hurd did not trust even his private secretary to copy the letter; he did it himself, for it would never do to risk it in the mails without a copy to refer to; that letter might go into court. He sat down and rattled his typewriter for an hour, and sent the copy to Joe; then he locked the other up in his private-letter drawer and laughed again.

"I really don't know which to admire most, Molly's pluck or that woman's grand nerve; as to Uncle Penhurst, he ought to go on the stage, and I shall propose it when this thing is over."

At the house in the woods Mrs. Golden was busy, also. Although she had promised not to write letters, no such promise had been given by Meg. It had not occurred to the crafty doctor that the nervous, hysterical child was equal to any correspondence. Her mind he considered quite unsettled by her experience in the past; it did not sadden him to believe this, for she would then be more controllable and would be his ready slave. The one thing which he desired above all others was to make her forget her mother, if she had not already done so.

Mrs. Golden, on the contrary, had found that the child's memories of the pretty lady were being strengthened daily, and of late she had heard Meg recalling terms of endearment and various expressions which were part of her happy memories.

After the mysterious letter came Meg seemed quite another being. She grew hap-

py, and even sang a little, and was constantly looking out of the window for another letter.

"You might write one yourself and put it there," said Mrs. Golden. "Your brownies may possibly find it and take it to its destination."

"I will, I will," exclaimed Meg, eagerly. And soon a letter was floating in the air. "I will watch," she said, "and maybe I shall see it go." But look as she might, the letter was still there when darkness came on.

Paul had not seen it; he was having some new garments made, and he was restless and unhappy. It was Celeste's chief delight to fashion his clothing for him, and it was no easy task for such a misshapen figure. Paul had run away at last, and found his way to the front of the house. There was something tied to the string; he could see it even in the darkness, and he dimly ascended his usual pillar. For once the curtain had not been closely drawn, and he saw Mrs. Golden busily engaged in sewing. He watched her for a few moments, and then seized the letter and went swiftly away into the darkness. He felt sure that the little lady was sending something to "dear Joe," and he must get it to him. If he returned to the house his mother would not let him out again, and all day he had been tortured by the clothes. He would not go back. He had taken his supper, and, as he usually did, put part of it in his pocket for the birds. He went on and on, keeping out of the beaten paths to those which he had now learned to know by marks and signs of his own registering and the size of the trees. It was a long, weary way, and once he fell asleep and was awakened by hearing the sound of voices. He had reason to fear men, for they had mocked him, and had beaten him; but of all men living the "Hate man" was his horror. He felt in his stocking for the letter, and kept perfectly still. The voices came nearer. Alas for Paul, one of them he recognized as that of the "Hate man." Fortunately for him both the speakers were on horseback and would not see him if he kept perfectly still. He listened. The hatred which he had for his enemy sharpened his wits. He distinctly heard the name "Celeste."

"Well," said a strange voice, "what will you do with her brat?"

"We can get him out of the way easy enough," said a voice Paul knew only too well. "But what I want to find out is, why is it that no move is made to get our man out of jail?"

"They dare not. We swore too strong for them; and I don't believe that any lawyer will take the case without money."

"Can't you find out more about the fellow that had the girl when you got here?"

"No need to, boss. He is only a common workman, and half witted at that; they call him 'fool Joe,' or something of that sort, and he was glad to get rid of her, I reckon."

"Better hunt him up and get him fixed," said the other. "I want every point covered, you know. In case the jailbird tells a pitiful yarn when he is brought out for trial."

"Trust me, boss; I know my work. You just keep shady if you don't want your share known. I'll need some money to go on with, and my pardner is getting riled 'cause you didn't pay the whole sum when we got the kid."

"Stop his mouth, then, and give him this."

Then there was a silence, and the men separated, the "Hate man" going farther into the woods, the other in the opposite direction.

Paul was nearly dazed by the words he had heard. They were not all clear to him, but he knew enough to feel that the "Hate man," as he called him, was Joe's enemy, as well as his mother's. He must be going now to see her, and Paul was glad to be away. It was a long time now since he had beaten him and told him never to come into his presence again, and the mother was always afraid lest Paul should meet him. The boy hurried on to find Joe and tell him what he had heard; then he must get back to the mother. She always cried when the "Hate man" came to see her in the old days, and now she would cry more. He must see Joe and go back faster than he came.

Joe found him in his room waiting for him with the letter still in his stocking. Mrs. Maloney had sent him up there, as Joe had told her that a poor boy whom he was befriending might come there; should he do so, would she send him at once to his room and not let the men know of his presence?

"Hunchback, is he?" said the landlady. "Well, thin he's as safe in my house as in a king's palace; for its bad luck to cross or touch a poor lad that heaven has cursed."

Paul was too anxious to barter for his letter that day. He told, in his queer, wild way, of the scene in the woods, and the words of the "Hate man;" then he produced the letter. It was a long one, and Joe looked it over hastily, hoping to read it after the boy was gone. A sentence at the bottom of the second page attracted his attention. It was this:

"My dear nurse wants you to ask her lawyer, Mr. C., if he remembers his old friend and client, Mary Golden; if so, to think of her; the 'family' will not let her write."

Joe questioned the boy closely and learned still more of the life of little Meg; he then started the lad on his way homeward with well-filled pockets and Dennis Maloney for a guide through the settlement, with strict in-

structions not to tell Dennis of his home or to mention why he came.

Strange things had happened at the house in the woods during his absence. No breakfast had been sent up, and Mrs. Golden was positive that she had heard angry voices the night before, during the doctor's visit.

When he entered her presence he had been as suave and smooth of speech as usual, and had urged her to make her plans to travel with his patient when the weather grew warmer. Would her son board them on his ranch for a few months?

"Possibly," said Mrs. Golden, "if I might now be permitted to write him. The seclusion here, doctor, is telling on my nerves, and I really must have permission to be allowed to walk about the grounds."

"I see no objection to that, nurse, if you will leave your charge asleep. She is so much improved under your care that it will be quite safe."

"Then you still object to her going out?"

"I am compelled to, for the present; she is certainly much better, and I shall urge the family to permit more indulgence, but we can never thank you sufficiently for your care of her."

"I am very fond of her, doctor," was the brief reply.

The next morning when the breakfast was not sent up Mrs. Golden resolved to go downstairs.

CHAPTER XVIII. CELESTE.

Marion Penhurst was an excellent actress, as well as a ready writer. Better than this, she was a generous-hearted, noble girl.

In the plans for her incarceration it had been agreed upon as to her drawing, at Joe's suggestion. He knew that a picture could tell a story quite as well as words, and little Meg had proven this anew.

The first moment Joe could spare from duty he went to Captain Jasper and told him all he had learned.

"So they are putting you down as half-witted, are they?" said the captain. "That is rich, Joe, considering your ability to furnish brains for the rest of us."

"Never mind where I am classed until our captives are free; then I am willing to come out as a man among men."

"And you'll do it, too, Livingston. You were made to lead men. Now and then the Creator gives certain men and certain women power to lead, to organize and to command; and it's a mighty good thing that it is so. When you get where you are sure to be, may I be there to see?"

"Thank you, captain; and now read this letter which Jack Hurd has sent me. You have been so much interested in all our plans, and have helped us so much, that I want to share the good news with you."

"Better read it to me; come in here where we can be quiet. I am always stupid and slow with a strange handwriting, but give me a face to study and I am your man." The captain closed the door of his private room and sat down. Joe read Miss Penhurst's letter to Jack.

"DEAR FRIEND:—Fact is of more consequence than money. I have made friends with the doctor and wheedled him into an introduction to poor Mrs. U. (no full names in this; I know the world too well). I am in love with Mrs. U.; she is beautiful, refined, gifted. She sings and plays for the patients, and she slugs divinely. No man other than a fiend could bear to be parted from such a woman. The second night I stood by her at the piano and turned the music; then I whispered, 'I am your friend; trust me!'"

"She looked up gratefully, and nearly lost her wonderful self-possession. I said, with a laugh, as if I had made a blunder in the pages, 'There, now I am right; play on, for your very life!' I sang with her and for her, but my singing is mere droning to her superb work. It has kept her from going mad, she says. She can sing when she cannot pray; although she does the latter, I can testify. If that big, athletic friend of yours could hear her prayers for him and her child he would hold his head higher than he does now. How we talk about him. She sometimes thinks that her brother is dead, and perhaps that is best for the present. I shall never rest until I see the handcuffs on that brutal husband. He must have been horn with the heart of the lowest brute in place of a man's. Mrs. U. and I sketch together, read, sing and are the closest friends already, but not once has she mentioned the name of her husband. She was placed here by her 'family physician,' the patients say, and her chief delusions are that she has a husband, a brother and child, whereas he, the brute, says she is a poor, overworked artist, whose husband is dead, and he is kindly settling her bills here for the sake of the family. Don't I wish that I could be judge, jury and executioner in his case?"

"God only knows what she has suffered. She has been in five different asylums. All of the conscientious doctors declare her sane, and as soon as they do she has been hustled off to a distant place under another name. One of the best attendants here says 'she has seen more than a dozen women in captivity because husbands want to be rid of them.' I have seen enough now to make me crazy if I had any tendency that way. This life would kill me in six months out of sympathy for the wretched; but Mrs. U. is a strong soul and says she will live for her child. She is grand and heroic. When I get out I will write up these injurious practices, and people must hear; the story of hundreds will not be believed, because they have been thought unbalanced from the first, and the cruel shadow of the walls follows them through life."

"I am sane; you know it, your friends know it, and I am a voluntary prisoner for the sake of others; when I unfold my tale of sorrow and wrong, may God open the ears of right-thinking people and all lovers of justice to hear me."

"How you would laugh if you could see me in my 'tantrums.' I never forget that I am mourning for a lover (who has not yet been born), and also that I must appear 'queer.' They are all fooled; even the doctor. He tried to kiss me the other day, and I boxed his ears; since then he calls me the 'pretty termagant,' but he keeps his distance, for 'I have rich and powerful friends outside.'"

"The attendant we have is rather new, but good. I have a friend in her. One of the older ones who have been here a long time says 'Mrs. U. should not be here, for she is perfectly sane,' but she begs me not to repeat her words to the doctor. Mrs. U. is classed with the 'friendless' patients; that is, those who do not have visitors or friends to care for them, and who are put here to keep them out of the way."

"I am looking forward to 'uncle's' visit; meantime, I paint, poet, pretend and rule as many as possible by pure strategy. If you can get even one line from your handsome athlete to Mrs. U. it will give her a new lease of life; she is far from strong, physically. She has endured so much; but the brave spirit is something to be proud of. I am glad to know her and shall henceforth be her devoted friend."

"Do charge 'uncle' to be cautious; they are very suspicious in a place like this."

"Yours for humanity, despite the lost lover, MARION PENHURST."

"P. S.—Uncle is here; he is ideal; made up to perfection. Hurrah for journalism! It triumphs over wrong every time! M. P."

"That is what I call good work," said Captain Jasper; "that girl ought to be a detective; she's an honor to her sex."

"I think Mrs. Golden also an honor," said Joe. "Just think of what might have happened if a coarse, brutal woman had been in her place? I sent her a message to-day by poor Paul."

"We must look out for him," said the captain.

"He shall never want while I live," said Joe.

At that very moment Mrs. Golden was bending over the prostrate form of Celeste. She had called in vain for breakfast, and then went down-stairs, hiding Meg to be a dear, good Peggy, for something must have happened to cook.

Celeste was unconscious on the floor. She had either fallen or had been rudely pushed there, for a bad, dark mark was on her temple.

Mrs. Golden raised her tenderly and placed her on the couch where Paul so often slept. Finding that her restoratives did not recall the woman to consciousness, she called Meg to her assistance.

"Family or no family," said she, "this poor woman shall not suffer; this is an emergency unprovided for."

All through the day the woman and little child waited upon themselves and the prostrate woman. At night Mrs. Golden dared not leave her, and Meg was made comfortable in the adjoining room, which had been fitted up for the woman's own use. Again and again Mrs. Golden thanked the good Father that the doctor would not visit them again for some days; she felt quite sure that he knew more of the cook than he had ever told, and if the case went beyond her own care and nursing she would write to Joe. She was confident that he would prove a friend in need.

About midnight the woman grew restless and talked almost constantly, begging some one not to harm Paul, to spare him her poor hapless boy. Mrs. Golden's quiet touch seemed to comfort her a little, but her constant cry was for Paul. It was nearly three o'clock in the morning when a strange figure came to the window and looked in, and a sharp voice cried out:

"Paul must come in; Paul wants the mother; poor Paul is cold."

(To be Continued.)

KILLING CROWS IN GEORGIA.

They have a novel method of killing crows in Georgia. Grains of corn are pierced, and through them is inserted the hair from the tail of a horse. These grains are scattered in the field where the crows are in the habit of coming. When the bird swallows one of these grains the horse's hair prevents it from passing into the craw and irritates the month. The bird rolls over, turns on its back and scratches to get it out, but to no purpose. Death results either from strangulation or, as is frequently the case, from the wounds inflicted by the sharp claws. The crows gather around the victim, but although they are of an exceedingly suspicious nature, they never attribute the trouble to the corn.—Cincinnati Enquirer.

No farmer can afford to send a load of wheat, corn or potatoes, a drove of cattle or even a jar of butter to market, without first knowing how many pounds he has to sell. The day for high prices in scales is past, and there's no excuse at the present day for being without them, as any reader can demonstrate by addressing the Osgood Scale Company, Birmingham, N. Y., whose advertisement appears in these columns.

"I am having fine success with 'American Women,'" writes Mrs. B. B. King, our cultured and business-like agent in Fayette county, Ohio. "I took four more orders yesterday afternoon. People are simply delighted with the book. You have certainly made a great hit with 'American Women.' I will send a good order the first of next week."

A Declaration of Independence.

BY MAUD MORRISON HUEY.

MIS TORREY! Mis' Torrey!" Mrs. Ursula Cripe pushed her brown cotton umbrella back on her shoulder and shifted the market-basket of eggs she carried farther up on her arm.

She gave her head an impatient shake to replace a straggling blond bang that had escaped, limp and moist, from the dingy rim of her straw bonnet. The shake set the five beady red cherries that adorned the flat, crumpled crown bobbing rhythmically. Those cherries were the only feature of Mrs. Ursula Cripe's bonnet that had retained its original shape and color. They stood up bravely amidst the tumbled ruin of faded cotton lace and dusty half-silk black ribbon like a sturdy pine waving green and tall above the barren wastes of a desert land. Dust would not adhere and water could not tarnish their glossy redness.

"I don't see what Jane Torrey keeps her doors and windows shut close such weather as this for. I'd smother to death," she mused, impatiently, as she stared in over the few scraggy flower-stalks in the dooryard to the dilapidated bit of a house, low-roofed and paintless, that seemed to be shriveling and drying up in the relentless heat of the summer sun, as were the stunted irregular patches of grass that struggled for existence in the poor stony turf.

Her eyes wore an expression of helpless disapproval. "It's a picture o' shiftlessness, I take it," she concluded, giving a circling inspection of the premises, from the neglected tottering fence at her elbow, where a stingy gate squeaked dismally on one hinge, to the low stoop, through the rotten boards of which the weeds were poking up inquisitively. Bits of tattered mosquito-netting, gray and mildewed, hung in limp dejectedness from the two front windows, underneath which a few feeble morning-glory vines hoped vainly to reach the sills. One humble white blossom had fluttered to life and hung wilting in the sun.

"Hey, Mis' Torrey!" This time her call brought a final response. The door opened, and a thin, angular figure appeared. It was Mrs. Jane Torrey. She protruded her head cautiously at first, and her face wore anxious wrinkles. She had not yet found time to comb her hair, but the sight of the plump little body beyond the fence assured her. She ventured forth, wiping her hands, moist with dish-water, on her faded apron as she came.

"Is that you, Mis' Cripe? Where you goin' so early?" she questioned, as she moved between the desolate border boxes. She looked quite as stunted and dried as her flowers did. There were pinched lines upon her pale face.

Ursula Cripe noted them and mentally compared her to the blossomless green things. "The sill inside is quite as hard and stony. I shouldn't wonder, as 'tis in the dooryard, and I guess there don't many more soothin' drops come to comfort, if I know myself." She looked at her neighbor pityingly. "Early! Land alive! you don't call this early. Mis' Torrey? It must be past nine a'ready." She scrutinized the zigzag shadow of the fence anxiously. "I ain't much to loiter. Terrible hot, ain't it?" She set down the basket of eggs and took a black-bordered handkerchief from her pocket to wipe her moist face. "It looks some like rain—they maretails off in the west. I heard a bob-white this mornin'; they say it's a sure sign. I hope to land it won't set in for showers to-morrow. A rainy Fourth is a miserable thing, to my notion."

"Yes, for them that lot on it, I s'pose," said Mrs. Jane, meekly. "We need rain, though." She looked at the baked dirt in the posy-beds.

"But the Fourth o' July ain't but one day in the year, and the children set such store by it. I don't like to see 'em disappointed," pursued Ursula Cripe, as she brushed a bit of dust from her black sateen frock. It was made with full-gathered skirt, and a foot of flounce edged the bottom. It was only ankle length, for "long skirts is such a pester to walk in," she always declared. The waist was "plain hasque."

"I thought maybe you might like to send down to the store, seein' to-morrow is the 'Fourth,'" went on Mrs. Ursula, mildly. Her eyes studied the other questioningly. "They've got on quite a nice stock of fireworks. Have you seen 'em? I don't s'pose you have, though. I heard through Mis' Day that your old lameness was botherin' you again. It's too bad. Does it bother you much?" She looked sympathetic.

"No more'n common durin' hot weather. Heat seems to take the tick right out o' me." There was a pathetic droop to the woman's mouth.

"Well, I should think it would, your house is so tucked up an' low. How you all live in it heats me. Why don't you open the doors an' let a little healthy air whisk in. I should think you'd melt in a pile."

Ursula Cripe was glad of an opportunity to free her mind. Her own house was large and airy. In warm weather she kept the doors and windows ever open. She looked over at Jane Torrey rehnkingly. "You ought to let in more air," she repeated, with emphasis. "It's ouhealthy."

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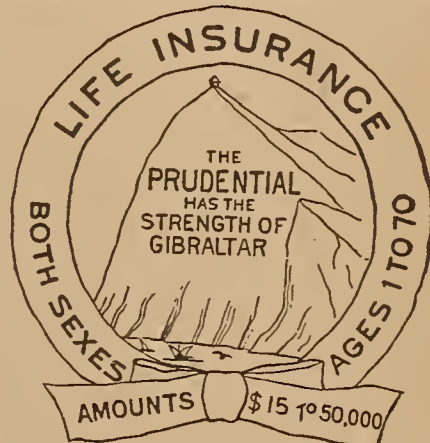
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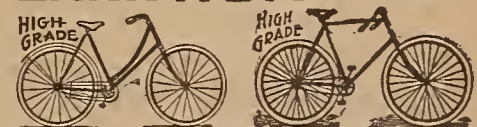


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"But the flies," Mrs. Jane protested, with feeble spirit. "They're dreadful this time a year. I've been teasin' Dan'l all summer to get some screenin'. Flies is terrible tormentin', an' mosquitoes. It don't seem 'sif I could sleep nights scarcely, 'twixt mosquitoes an' heat."

She leaned weakly against the fence, that swayed with her weight; but Mrs. Ursula Cripe on the other side served in a measure to balance things up, so the rickety thing did not collapse altogether.

The woman on the road side gave a little snort of disapproval. "Dan'l Torrey's a smart man if he can't 'ford to git mosquiter-nettiu' to cover the widders." She had a way of speaking her mind. "We have it on all the doors inside, to say nothin' o' them outside. I stick out for it, and Jon'than he gits it. He'd as soon think o' not gettin' sugar or tea. You're too meek and meechin', Jane Torrey; you let folks run right over ye. The idea o' livin' all summer in an air-tight coop for the want of a few yards o' uettin'. I'd talk turkey to Dan'l if he was my man. I believe in folkses havin' a little independence an' spirit, if they be women-folks. It's a duty they owe themselves, says I. Tain't no kindness to nobody to be forever eatin' humble pie. This is a free and independent country, though some folks seem to think it ain't. I s'pose your goin' to celebrate some, ain't you, Mis' Torrey?"

The little woman inside the dooryard seemed to shrink perceptibly. "I guess we're too poor to celebrate any this year, Mis' Cripe," she said, awkwardly.

"Did you celebrate last year?"

"No; Dan'l thought—"

"Did you celebrate the year before?"

"No, we didn't. You see—"

"Well, if you didn't celebrate last year or the year before, and don't mean to celebrate this year, when do you mean to celebrate? It seems to me most anybody could afford a few bunches o' fire-crackers. We can't do much. We ain't rich by no means; but we do what we can. It seems to me children ought to be brought up with feelin's o' patriotism, and to love their country. They've got some real cute little flags down to the store for five cents. If you hain't no change, Mis' Torrey, an' would like to send down for anything, I'd as lief carry a few eggs along as not. My basket don't begin to be full." She looked at her neighbor with kindly anxiety.

"I guess I won't bother," said Mrs. Jane, nervously. "My egg-basket's low. Dan'l took the left down yesterday. He had to have some nails and—"

Mrs. Ursula noticed the hesitation. "An' what?" she pursued, relentlessly.

"He was out o' smokin'-tobacco. Dan'l's a great hand to smoke."

Her words met with an indignant "huh." "Do you ever buy any chewin'-gum, Jane Torrey?"

"Land, no!"

"Does the children ever have money for candy and such things?"

"Not very often."

"It don't seem to me it's fair, that's all. You was always too meek-spirited, to my notion. I wish you could see them Japanese lanterns at the store; they're so pretty—red and green and yellor. Did your children ever see any Roman candles and sky-rockets shot off, Mis' Torrey?"

"I don't know's they have," replied the mother, in a troubled way. "We took 'em to a celebration once to Foxville; 'twas when Bennie was a baby. I s'pose they've forgot it. If we lived nearer some sizable town—"

"Yes, if we lived nearer some town we might see a good deal; but there's some things we can do livin' here. A body don't begrudge what little they do to celebrate the Fourth o' July, I don't believe."

She gave the cotton umbrella a patriotic flourish, as she stooped to pick up her basket of eggs. "Is that sweet-mary comin' up over there in the grass, Mis' Torrey? Do pull up a sprig o' it; it's so sweet-smellin'. It used to grow in mother's garden to home. Well, I must meander. It seems to me it gits hotter." She shrugged her shoulders. "You'd better open up your winders," she called back, as she moved along down the road.

"'Bout what I thought o' Dan'l Torrey," she mused, with righteous indignation. "He's too selfish an' slack to live. There he is down by the south pasture this minute loppin' up on top o' the fence, as if he hadn't ambition to stand; I've a notion to give him a piece o' my mind as ever I had to eat."

She straightened herself sturdily as she drew near the blue-overalled figure, perched aloft on a rickety breadth of the pasture fence, and called to him, good-naturedly. "Good mornin', Mr. Torrey! Bulldin' fences?" she questioned. The man wheeled about laboriously, hoisting both legs to the other side. His face wore a broad smile. "Old hypocrite," was Mrs. Ursula's mental ejaculation.

"Oh, I'm just togglin' up the old a little," he replied. "Thought I'd rest a minute while Bennie went for the hammer and nails." He shifted the brown cob-pipe, from which was issuing a cloud of smoke, to the other side of his mouth, where it would not prove too great an impediment to speech, and continued, his stannich little neighbor eyeing him the while with disgust and indignation:

"You see, my cows are breechin'. They're forever nosin' into other folks' crops. Jest

last week they broke into Nat Goodall's corn, and it cost me five dollars to repair damages. I'm thinkin' o' sellin' 'em all this fall, or tradin'. I'm tired out pesterin' with 'em. Did you ever see a man have worse luck'n I do, Mis' Cripe?"

"Land no! You have the worst luck of any man a livin'. I never see the beat of it, Dan'l Torrey." She accompanied the words with a jolly laugh. When Ursula Cripe laughed she shook all over. "I've seen other folks, though, that was unlucky. There's Hiram Hicks, for instance. I s'pose 'twas bad luck that ailed him, though it looked a good deal like laziness. If folks git right up and have lots o' gumption and do their level best, they're usually lucky enough. Goin' to celebrate, Dan'l?"

Daniel Torrey stretched his long limbs clumsily. "No, I don't s'pose I be, unless I shoot off my mouth a few times," he laughed. "Fourth o' July doin's is too expensive for such as us. We leave such things for them that's abler."

"Pshaw! I guess anybody could afford a few fire-crackers if they wanted to. Our children set a lot on the Fourth o' July. I believe in bringin' 'em up independent. You spend that much for smokin'-tobacco every day, I'll warrant ye." This stannich patriot fired her guns of justice fearlessly.

"I was speakin' to Mis' Torrey a while ago, an' she said you took all the eggs to buy smokin'. I was goin' to git her some things, fire-crackers an' flags for the children; but she didn't feel able. She said she'd like some mosquiter-nettin' on the winders and doors real well, if she could afford it. Seems to me she looks real peaked and pindlin', Mr. Torrey. I shouldn't wonder if 'twas livin' so close. It's unhealthy. She said she didn't sleep much nights, and she looks it. She's 'bout tuckered 'twixt fightin' flies and the heat, I guess. Do you remember the time you and Jane and Jon'than and me drove clean over to Stixford to a celebration. That was 'fore any of us married. Jane was real rosy and plump them days. She don't look much like she used to. Dan'l." Mrs. Ursula sighed. She commenced to move away. "It's too bad she hain't privileged to bring her children up patriotic. She feels it, I shouldn't wonder."

She passed on down the road, leaving Daniel Torrey puzzled and disturbed. Folks called Ursula Cripe a "meddlin' old woman," but she usually had justice beside her, and was prompted by a desire to help and uplift.

"If that don't stir up Dan'l Torrey to a realzin' sense I don't know what would," she mused, as she waddled on with her eggs and her brown sun-umbrella, and the red cherries nodding merrily from the crown of her bonnet.

The pinched lines on Mrs. Jane Torrey's face deepened as she went back between her barren posy-beds. At the steps she sat down and rested her head wearily upon her hand. It was shady there and a bit of breeze stirred the grass at her feet. A greedy bee hovered low over the solitary morning-glory blossom. His noise mingled with the rasping sound of numberless grasshoppers dotting the sun-burned turf. She was pondering over Mrs. Ursula Cripe's words. She sat there till her dish-water was cold and the fire had gone out; but when she went inside her lips were drawn in firm lines. Meek little Mrs. Torrey was nearer a feeling of rebellion than she had ever been before in her life. "I'll do it," she said for the dozenth time, as she slipped guiltily into the small side bedchamber and took down Dan'l Torrey's best trousers. She felt in the pockets and counted out two quarters, five dimes and three nickles—one dollar and fifteen cents in change. There might be some bills in his wallet, she did not bother to look.

Daniel Torrey carried the pocketbook. His wife had never felt she had any right to it. She took out fifty cents now as a thief might have taken it. She repeated to herself that she had a right to it, that she was taking it for Independence's sake; she had always been "too meek and meechin'," but she felt like a thief. The rest of the change she dropped back into the pocket and hung the trousers as she had found them. The fifty cents she tied in the corner of her pocket-handkerchief; she had never owned a purse, not since she had been a girl.

After dinner she changed her dress and pinned on her hat. It was an old-fashioned high crown, and devoid of trimming. Bit by bit the furbelows and feathers that had adorned it had become decrepit and fallen off. The lace she had taken off to make the children some collars.

It was two miles to the village store; but the way seemed short to Jane Torrey. She was planning what she should buy. A flush of excitement tinged her sallow cheeks. The children were out in the field helping their father; they would not miss her.

Mrs. Cripe had not exaggerated the beauty of the Japanese lanterns. She bought two. "We'll go out under the trees to celebrate," she planned. "I'll hang these up in the leaves." She took three penny flags and a blue tin soldier for Bennie, two sky-rockets and some torpedoes, three Roman candles and a bunch of fire-crackers apiece. Then she had thirteen cents left. She spent five cents for candy and five for peanuts; with the other three she bought colored sugar.

When she got home she made a cake, a

round, tower-shaped cake, and decorated it with sugar—red, white and blue. She called it her Independence cake, and stuck the three little flags in the top of it.

She went in the pantry and looked at it often. She wondered what Daniel would say. She meant to cut it under the elm-tree, where they should have their celebration, and she planned out a little speech she meant to make. It had something in it about "proper spirit" and "Independence." Mrs. Ursula's words haunted her.

After Mrs. Torrey had gone to the village store Daniel came in and looked about curiously. "Jane," he called. "Hey, Jane!" The rooms were empty and silent. Their close unpleasantness seemed for the first time to strike Daniel Torrey uncomfortably. The doors were closed and the curtains were down; still he could hear the buzz of flies. He looked up at the ceiling, unplastered and ngly, and a sense of shame possessed him. From the opposite wall Jane's face looked down at him; Jane at eighteen, rosy and plump. The picture had a faded piece of pink mosquito-bar over it to protect it from the flies. He looked at it a moment musingly. The children were down in the pasture picking posies, there was no one to see. He lifted the corner of the curtain to throw a better light on the features. He wanted to make sure if Ursula Cripe had spoken the truth, when she declared Jane so terribly changed. "Things ain't as I meant to have 'em," he reflected, bitterly, as some twinges of his old ambition smote him. "I meant to do better by her. There wasn't a prettier girl in all Kent county." He transferred his attention from the picture to the windows. "Ten yards'll do it, I believe," he mused; "thut'll fit up the doors, too. If I'd a thought she really needed it so." A flush of shame crept over his face at the thought. What way was this he had gotten into. He was not at heart an unkind man; it was only carelessness, and he was not thoroughly hardened in the way of it yet. It had only been ten years since their honeymoon. Mrs. Ursula Cripe's words had brought back those days all too plainly.

He went into the side room and took out his wallet. It contained fifty dollars in bills. It was all they had saved in the ten years they had been married. He had calculated to build a new barn. He had some lumber already purchased—an old house he had taken on a debt. He meant to tear it down and build it up into a barn. Daniel Torrey's one pride was a good barn. He did not trouble about the house. But now he took the wallet and selected a worn dollar-bill. "I'll do it," he said; "that much goes for nettin'," and he strode off across-lots to the village with a firmer, lighter tread than he had known for a good while. He did not meet Jane; she came home by the elm.

Up in the elm swayed the bright-colored Japanese lanterns—red, yellow and green—underneath it Jane Torrey's children shot their first fire-crackers of independence. The dining-room table had been brought out under the tree, and upon it was spread a white sheet. The Torrey's had no white table-cloth. In the center was the Fourth of July cake.

A cool evening breeze flittered the wee flags and spread the scent of the meadow flowers the children had gathered. In the best water-pitcher they adorned the table. Down in the hollow the frogs were piping with melodious shrillness, and away off somewhere a whelp-poor-will sent out dreamy calls.

Jane stood ready to cut the cake; Daniel stood beside her. He had come clumsily up from the barn at her command, and the pretty sight that greeted him under the tree was a surprise. He maintained awkward silence. Jane Torrey was pale. Her lips were tightly pressed; she expected some rebuke from Daniel, but none came. She held her head stiffly erect, though her eyes, as they sought his, were humble, appealing. She struggled to say the little speech she had fashioned, but the words would not come.

"Dan'l," she said, feebly, and her eyes dropped, "'twas for the children's sake; to teach 'em independence." Such a poor little speech; "so meek an' meechin'." She turned away her head to hide the tears that glistened under the glimmer of the lanterns. "Tell 'em, Dan'l, tell 'em what independence means," she plead, desperately.

Daniel Torrey cleared his great throat. "Wait a minute, Jane," he said, and without a word he moved away to the house. When he returned he brought a ladder, and wrapped about his arm, fold upon fold of mosquito-netting, red and white and blue. He clambered up and fastened it from branch to branch till the tree drooped with its burden. Gay streamers floated out over their heads, fanned gently by the balmy breeze.

"I guess they'll see what independence means," he said. "It's pretty, ain't it, Jane?" "Oh, Dan'l!" she said, and her head drooped. All her pride melted under the warmth of his sympathy. "'Twas your money. I stole it; I did, Dan'l. 'Twas for the children. Oh, Dan'l!" Her lips quivered; they no longer retained firm lines. "I took it out o' your pocket." She stood before him meek and penitent.

"Jane!" a strange light came in Daniel Torrey's eyes. "Did I ever say you hadn't a right to? I haven't been kind to you, have I, Jane? Things will be different from this. Do you believe me?"

He stretched out his arms and drew her toward him. "Jane this is the declaration of Independence," and under the fluttering breadths of the nation's colors, by the faint light of the fading lanterns, they sealed it with a kiss.

PRIMITIVE MINING AND METAL-WORKING.

The earliest miners and metal-workers of whom we have record were the Aryan peoples of Euro-Asian origin, who, though of pastoral and arboreal habits, were familiar with the metals and worked with them—at least with the metals gold, silver and bronze. Chaldeans and Assyrians, as we know from the cuneiform inscriptions which go back 3,000 years B. C., were undoubtedly expert in the use of metals; while the Egyptians had an intimate knowledge of the arts and sciences. In the brick and other inscriptions recently discovered artisans are seen at work, with curious details of their methods and tools. Potters, indeed, had attained eminence in their art, and the Egyptians had certainly a knowledge of chemistry, as the samples of their glass-blowing and the stone pictures of tools, forceps, blowpipe, etc., prove. Gold was largely used at an early period—between 4000 and 5000 B. C., as we find from some newly discovered and ingenious weighing balances. Many centuries older than the pyramids, which date from fifty to sixty centuries back, we have examples of engineering in Memphis, which could not have been constructed without tools, and necessarily an acquaintance with metals. The word "metal" is of Semitic origin—the Hebrew word "matal," to forge, indicates an early acquaintance with the fusing of ores and the malleability of metals.

How these early primitive people discovered the use of things must, of course, have been through their wants and needs, particularly after they left pastoral and tent life and began to build cities. The Arabs are credited with being early acquainted with the alloys, though alchemy, as a science, dates only from the sixteenth century.—Self Culture.

FLEAS.

We have been asked to give in these columns some advice as to the best methods of ridding dwellings of fleas. As to the removal of the pest no better advice can be given than the following: Every house where a pet dog or cat is kept may become seriously infested with fleas if the proper conditions of moisture and freedom from disturbance exist. Infestation, however, is not likely to occur if the (bare) floors can be frequently and thoroughly swept. When an outbreak of fleas comes, however, the easiest remedy to apply is a free sprinkling of pyrethrum-powder in the infested rooms. This failing, benzene may be tried, a thorough spraying of carpets and floors being undertaken with the exercise of due precaution in seeing that no light or fires are in the house at the time of the application, or for some hours afterward. Finally, if the plague is not thus abated, all floor-coverings must be removed and the floors washed with hot soap-suds. This is a useful precaution to take in any house which it is proposed to close for the summer, since even a thorough sweeping may leave behind some few flea-eggs, from which an all-pervading swarm may develop before the house is reopened.—New York Ledger.

ANTS IN THE SOIL.

Ants in the soil can be destroyed by means of bisulphide of carbon. Make a hole about six inches deep in the ant-hill with a round dibble or bar, and into it pour a tablespoonful of the liquid, and immediately close up the hole with the soil. The liquid is very volatile, will permeate the soil in every direction, destroy all animal life, and will not injure vegetation. It is very inflammable and must be carefully kept away from fire. Ants can often be driven away by sprinkling about their haunts ashes saturated with coal-oil. They can be trapped and killed by placing sweet-oil where they can have access to it, as they are very fond of it, but it has the effect to close their spiracles and thus kills by asphyxia.—Vick's Magazine.

SAGACITY.

"I was called once to attend a horse which was suffering from toothache," said a Philadelphia dentist. "The animal was in great pain, and when I examined his mouth he appeared to realize that it was my purpose to relieve him, and he submitted to my handling with calmness that was almost human. I discovered a cavity in one of the back teeth, which was also badly ulcerated at the root. I temporarily relieved the pain, and next morning I visited him again. He gave evidence of pleasure at my approach, and I concluded that I would attempt to fill the tooth instead of removing it. This I did, cutting away the diseased portion and putting in a filling of cement, and during the entire operation the horse flinched no more than a man would under the circumstances."

CRADLES NEARLY OBSOLETE.

The cradle is fast becoming a curio, especially in its earlier hooded form. The modern American baby is not cradled and not carried, but taught to content itself with a mattress like any one else, so that the phrase "the hand that rocks the cradle rules the world" refers to a custom almost obsolete.

BEFORE A STORM.

There are a great many barometers which indicate the presence of dampness in the air as surely as any mechanical contrivance manufactured for the purpose. The wild birds give a note of alarm and show clearly that they expect a storm. The note of a robin changes; all birds and animals seem to know that rain is coming. Squirrels invariably prepare for a "spell of weather." Do not these creatures recognize some of the changes in the atmosphere and in the trees and flowers that guide them to prepare for rain? Leaves behave quite differently before rain. Many of them, notably the sugar-maple, curl up. The majority of flowers have some way of protecting the pollen of their blossoms from rain. The common pimpernel (*Angallis arvensis*) is known as poor man's weather-glass, because it quickly closes on the approach of bad or damp weather. The Anemone erythronium and many other wild and garden flowers never open their petals except in bright weather. The common chickweed is another certain barometer, and remains firmly closed except in sunshine. The weather signs of the following rhyme are familiar, and most of them probably correct indications of foul weather:

The hollow winds begin to blow,
The clouds look black, the glass is low;
The soot falls down, the spaniels sleep,
And spiders from their cobwebs peep.
Last night the sun went pale to bed;
The moon in halos hid her head.
The boding shepherd heaves a sigh,
For, see, a rainbow spans the sky.
The walls are damp, the ditches smell,
Closed is the pink-eyed pimpernel.
Hark, how the chairs and tables crack,
Old Betty's joints are on the rack;
Her corns with shooting pains torment her,
And to her bed untimely sent her.
Loud quack the ducks, the sea-fowl cry,
The distant hills are looking nigh.
How restless are the snarling swine!
The busy flies disturb the kine.
Low o'er the grass the swallow wings,
The cricket, too, how sharp he sings!
Puss on the hearth, with velvet paws,
Sits wiping o'er her whiskered jaws.
The smoke from chimneys right ascends,
Then spreading, back to earth it bends.
The wind unsteady veers around
Or settling in the south is found.
Through the clear stream the fishes rise
And nimbly catch the incautious flies.
The glow-worms, numerous, clear and bright,
Illum'd the dewy hill last night.
At dusk the squalid road was seen,
Like quadruped, stalk o'er the green.
The whirling wind the dust obeys,
And in the rapid eddy plays.
The frog has changed his yellow vest
And in a russet coat is drest.
The sky is green, the air is still,
The mellow blackbird's voice is shrill.
The dog, so altered in his taste,
Quits mutton-bones on grass to feast.
Behold the rooks, how odd their flight,
They imitate the gliding kite,
And seem precipitate to fall,
As if they felt the piercing ball.
The tender colts on back do lie,
Nor heed the travelers passing by.
In fiery red the sun doth rise,
Then wades through clouds to mount the skies.
'Twill surely rain, we see't with sorrow,
No working in the fields to-morrow.
—New York Tribune.

WORTH KNOWING.

Water-cress, salsify, mustard and tomato act favorably upon the liver and promote digestion.

For slight cuts take a piece of common brown wrapping-paper, like that which butchers use for meat, and bind it over the wound.

A law enacted in Germany requires that all drugs intended for internal use be put up in round bottles, while those for external use shall be put up in hexagonal bottles.

A wet silk handkerchief tied without folding over the face is a complete security against suffocation from smoke. It permits free breathing and at the same time excludes the smoke from the lungs.

A very good remedy for a cold on the lungs is a syrup made of the juice of onions and sugar; simmer some onions in a very little water, strain, and add the sugar, or the sugar may be added first.

Strength and weight may be added to any one who will rub the body thoroughly with olive-oil after a warm bath. Oil-baths are expressly beneficial to delicate children and to all elderly and invalid people.

Paper indestructible by fire has been invented by M. Meyer, of Paris. A specimen of it was subjected to a severe test—one hundred and forty-eight hours in a potter's furnace—and came out with its glaze almost perfect.

The latest use for aluminum is as a substitute for lithographic-stones. Its lightness is one of the strong features. On the other hand, its use for surgeons' tools is gradually diminishing, as it bends so easily, and cannot with any known alloy be made hard enough for the purposes required.

BEGGARS' NEWSPAPERS.

At the present day every trade must have its paper, but it is not every trade that has a daily paper devoted exclusively to its interests. The beggars of Paris can boast that they are thus favored. The Parisian beggars, who, according to a writer in "Household Words," number about 8,000, have two daily newspapers.

One of these is entitled "Le Bon Guide." It gives to its subscribers a complete list of the baptisms, weddings and funerals to take place on that day, so that they may be well posted as to the best places to pursue their calling. For begging letter-writers there is a list of the addresses, arrivals and departures of persons of known charitable disposition. The paper is a mine of information to its readers.

The "Beggars' Journal" is not so high-class a paper, but it is perhaps more interesting. It prides itself on the exclusiveness of its information. It is unique in form, being written and not printed on the coarse, brown white paper used by grocers to wrap sugar in.

Its advertisements are suggestive: "Wanted, a blind man to play the flute. Apply to the editor." "Wanted, for a fashionable watering-place, a one-armed man; good references; security required."

This paper contains, like the other, notices of births, deaths and marriages in high circles. It does not boast of a very large staff, for the editor, who is also sole proprietor, writes out the single copy of the paper, and takes it around every morning to each of his subscribers, who have the privilege of looking over this unique journal for a few minutes by paying the munificent sum of eight cents a month.—Sunny South.

FIVE MONTHS' COUNTING.

After the new United States treasurer went into office it was necessary to know whether the cash represented on the books—\$797,000,000—was actually in the vaults. Until vault one was reached the books and the amounts found in the vaults agreed. In this vault were \$103,653,000 in silver dollars. A man who was employed about the treasury confessed that he had been in the cellar and had taken twenty-eight dollars from this vault, replacing them with lead dollars. Since the bags must have been opened, it was necessary to handle every dollar in the vault.

Twenty-eight expert counters, several skilled refiners to test the metal, and laborers to handle the bags, were set at work. Eight hundred and fifty-nine dollars were found missing. This sum must be paid by the former treasurer, who is responsible for the amount represented on the books. The counters spent eight hours a day for five months in the accomplishment of their task.—Success.

TOO MANY OF THEM.

There is an old anecdote which sets forth the whole Spanish situation quite graphically: A certain Spanish knight, very poor but proud, as his birth was as high as a king's, arrived late one dark night at an inn in France. Riding up to the entrance on his forlorn nag, he fell to battering the gate. He finally awakened the landlord, who, peering out into the night, called:

"Who is there?"

"Don Juan Pedro Hernandez Rodriguez de Vellanora, Count of Malofra, Knight Santiago and Alcantara," replied the Spaniard.

"I am very sorry," shouted the landlord, "but I haven't room enough for all those gentlemen you mention." And he slammed the window, and retired.

Yes, America says, there are too many of these gentlemen; they must go.

Recent Publications.

CIRCULARS AND PAMPHLETS RECEIVED.

P. M. Sharpless, West Chester, Pa. Pamphlet on the "Moody-Sharpless System of Gathering Cream."

Massachusetts Institute of Technology, Boston. Program of the courses of instruction, with a statement of the requirements for admission, and a list of the officers.

Illinois Steel Company, Chicago, Ill. Handsomely illustrated pamphlet, giving complete description of the various works of one of the largest manufacturing enterprises in the world.

P. M. Kelly, St. Louis, Mo. Southern fruits and vegetables for northern markets. Pamphlet of useful information for southern growers and shippers on what to grow, how to purchase, how to pack and ship, etc. Price 5 cents.

Vanhu's Seed Store, Chicago, Ill. Vanhu's Vegetable Cook Book. Pamphlet on how to cook and use the rarer vegetables and herbs. Price, paper covers, 25 cents; cloth, 50 cents. Free to customers.

"My business of selling Peerless Atlas and 'American Women' is running nicely," is the pleasant word from Mr. J. P. Cowman, Hingham, Neb. "I like it, and shall devote my whole time to it from now on." One of our Nebraska workers has sold and delivered very nearly 4,000 Atlases the past year.



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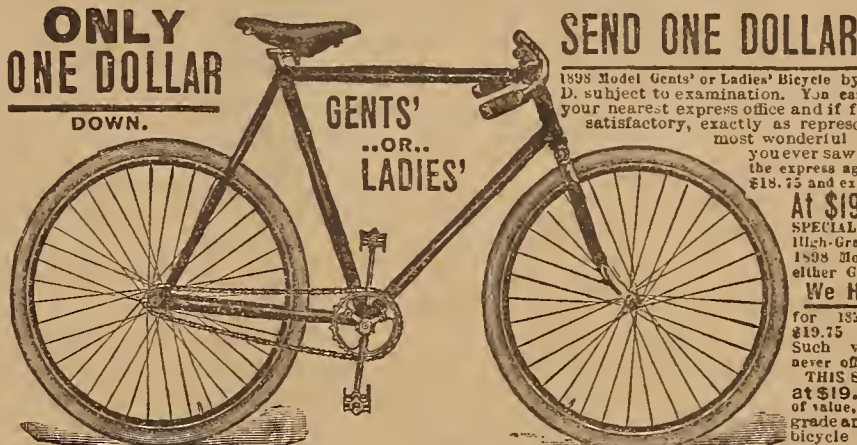
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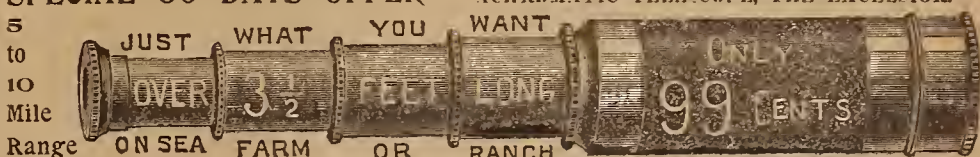
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Our Household.

EMBARKING.

Some day our little crafts, now anchored side by side,
Shall part their moorings and drift with the ebbing tide;
Shall outward sail, apart, alone, all silently,
O'er deep and shadowed waters of an untrod sea.
There will be those on shore who watch with whitened lips
The dim and lessening sails of our receding ships;
Ah, may the shores to which we journey seem more fair
To them, because our little crafts are anchored there.

—Alice Jean Cleator.

HOME TOPICS.

SUMMER BEDDING.—In the old days every one had a supply of thin bed-quilts for summer. These were usually pieced of new calico and gingham, and quilted with just a very thin layer of cotton. They were light and not very hard to wash, but now not many women piece bed-quilts: some because of lack of time, and others, perhaps, because of lack of inclination, so a substitute has been invented. Summer blankets, every thread cotton, but white, light and fleecy, with pretty borders, may be bought for from one dollar to one dollar and a half a pair. They launder well and are a boon to the busy housewife who has no time to make quilts and no grandma in the family to do it for her. The pair may be cut in two, the ends bound, and one of them, with sheet and spread, is enough covering for a summer night. Bed-clothing should always be light and porous, so the exhalations from the body may pass off readily, if the best conditions for sound, restful sleep are wished for.

WHERE ARE THE SCISSORS?—If you have asked and heard this question as



many times as I have you will be glad to try my plan for keeping track of these oft-needed articles. To make sure that one pair of scissors will always be at hand when wanted, take a piece of tape about a yard and a half long, slip one end through both ends of a medium-sized pair of scissors, tie the ends of the tape together, and then slip the loop through one handle of the work-basket, put the scissors through the loop, and they are fast to the basket. This will save you many minutes of anxious hunting, often when you are in a hurry. The "gude mon," who is an inveterate clipper of newspapers, has been obliged to tie a pair of scissors to a leg of his writing-table to keep them from going astray.

POLITENESS.—Some one has said, "Politeness is like a pneumatic tire; there isn't much in it, but it eases many a jolt in the journey of life." There is no one who does not appreciate politeness in their associates. Indeed, I believe it is but another name for kindness, for one who is truly polite will guard against any word or act of unkindness that can wound another. Teach the children to be polite, not only to their elders, but to one another, and do it by setting them the example. Teach the little boys to always lift their hat to a lady. This is a small thing, but it will relieve awkwardness and make them more easy in their manners, and as they grow older they will do these things instinctively. It pays to be polite and attentive to the pleasure and happiness of others.

not only because of their happiness, but because in this way we will grow more unselfish ourselves. True politeness is something which cannot be put on and off at will, and for this reason it should be so made a part of the early training of children that it will be unconsciously acted at all times and in all places. If a boy is in the habit of keeping the best chair in the room while his mother has a less com-



fortable one, he will not think to offer a chair to any other lady, and the same holds true in many other things.

MAIDA McL.

CHERRY DELICACIES.

CHERRY DUMPLINGS.—Make a sauce of two cupfuls of boiling water, one cupful of sugar, one teaspoonful of butter and a heaping tablespoonful of corn-starch wet in cold water. Stir constantly until it boils and is smooth, then draw to the back of the stove. Make dumplings of pitted cherries in the same way apple dumplings are made; butter a baking-dish and put the dumplings in it far enough apart to allow them to swell; pour the sauce over them, cover the dish, and bake thirty-five minutes. Serve hot with the sauce. The latter can be flavored with lemon or nutmeg, but the cherry is more delicate.

CHERRY ROLY-POLY.—Make a dough same as for baking-powder biscuit, and roll it into a thin, oblong sheet. Drain two cupfuls of pitted cherries, spread them evenly over the top of the dough, leaving an inch-wide space along each side; sprinkle a cupful of sugar over the fruit, sift one tablespoonful of corn-starch (or flour) over this, and form into a roll like jelly-cake. Wrap a muslin cloth a little larger than the dumpling out of hot water, flour the inside, wrap it around the roll, and baste closely together. Set a plate in a kettle, lay the dumpling on it, cover deeply with boiling water, and boil steadily for one and one fourth hours. Do not uncover the kettle except toward the last, to see if more water is needed. Serve hot with a sauce made of one heaping cupful of sugar and one third of a cupful of butter beaten to a light cream. Just before serving flavor with lemon, and whip in the white of two eggs beaten to a stiff froth.

A DELICATE CHERRY-PIE.—Spread one cupful of sugar over the bottom of a deep earthen pie-plate; fill with pitted cherries, cover with a rich pastry rolled rather thick,



and bake just long enough before it is needed to have it become cold. When ready to serve run a knife around the edge, invert a large plate over the top and dexterously turn it out fruit upward. Heap sweetened whipped cream over the top.

CHERRY WATER-ICE.—Put one quart of tart cherries. Boil four cupfuls of water and two cupfuls of sugar together fifteen minutes; add the cherries, stir well, and set aside until cold. Press through a sieve, and freeze. In freezing water-ices the crank must not be turned constantly; turn occasionally, and freeze pretty hard. Take out the dasher, prepare the freezer same as for ice-cream, and let it ripen two or three hours before serving.

KATHERINE B. JOHNSON.

POSSIBILITIES OF A PIECE OF DOUGH.

The woman who always plans her meals ahead, and does her cooking "with her brains," is never at a loss for variety; she knows how to ring the changes on plain meat and potatoes, so that her family hardly realize they are eating the same old thing. Bread especially plays an important part in the bill of fare, and I wish to point out some variations on that well-worn theme.

On baking-day, an hour before dinner, take a piece of light dough as large as your two fists, and roll very thin; cut with a biscuit-cutter, and let rise on the bread-board till the meal is nearly ready, then drop in hot fat; when a delicate brown on both sides serve at once. These are delicious eaten with jelly or maple syrup, and if the grease is smoking hot very little of it is absorbed.

To same sized piece of dough work in shortening the size of a small egg, one tablespoonful of sugar and one or two eggs, depending on how plentiful they are. Add flour enough to roll to a half inch in thickness, place in a pan, spread with melted butter, sprinkle thick with granulated sugar and more sparingly with cinnamon. This must get very light. Bake twenty minutes, and cut in squares as needed. Very nice with iced tea.

Follow above directions, only omitting the cinnamon, and spread with thin slices



of not too tart apples or peaches; when light, bake. Must be eaten to be appreciated.

Same directions, with addition of two tablespoonfuls of sugar instead of one, and a generous cupful of raisins or a scant cupful of chopped citron. More sugar can be used, if liked. Roll out to two-inch thickness; when light, bake one hour. When cold, cut into slices the same as plain white bread. This is to be recommended for children's school lunches and picnics, and is good while a scrap of it is left.

Same sized piece of dough; work in lard (butter is best) the size of an egg, divide in two parts, roll less than half an inch in thickness, spread with sweetened canned or fresh fruit, or even jam, cover with other part of dough, pinch the edges well together, and let rise. When baked, use while warm, with sweetened milk for dessert.

MARY M. WILLARD.

KEEPING HAMS IN SUMMER.

Some have difficulty in keeping hams through the warm weather. I never fail to have mine keep well. I do not slice them and fry in hot fat, and pack them down in jars. This method is a good one and satisfactory, but it involves some considerable work at a time when there is much for the women on a farm to do. Then, too, if there are any number of hams and shoulders as there are apt to be on a farm of good size, it takes a good

many jars in which to pack them. With only two pigs there are eight hams and shoulders, and it is no sinecure to cut these up, fry in hot fat and pack in jars.

Some years ago I read that if meat was rubbed (pickled meat, of course) with a mixture of borax and black pepper insects would not trouble it. I have used this for a number of seasons, and have never had a bit of trouble about the meats keeping



well. After it is well rubbed it is then packed in a box of oats and put in the granary, where it keeps through August heats and into the cooler days of September and October, unless used before that time.

This is my recipe for pickling ham and shoulders, or beef for drying. To one hundred pounds of meat take eight pounds of salt, five of sugar or five pints of New Orleans molasses, two ounces of soda, one ounce of saltpeter, four gallons of soft water, or enough to cover the meat, which should be packed closely in a barrel. Before packing sprinkle a good layer of salt in the bottom of the barrel.

Mix some salt and sugar, and rub each piece of meat with this mixture. Put the salt and sugar, saltpeter and soda in water, and bring to a boil. Let cool, and when cold pour over the packed meat. If one wants the meat for dried beef it will need pickling some three weeks, then taken out, put in a tub of water over night, and then strung up to drain and dry.

Pork hams and shoulders I frequently leave in the pickle from fall till spring, and then take out and dry and smoke. They keep perfectly and make delicious meat.

ROSE SEELYE-MILLER.

PLAIN AND FANCY APRONS FOR CHILDREN.

Very pretty, indeed, are the dainty aprons worn by children. At one time there was a decided falling off on this article, but it could not last for any length of time, for aprons have been, and always will be, a necessity among the little ones.

Very little need be said descriptive of the illustrations herewith, since most mothers have a sort of body pattern of an apron which can do service for nearly all styles of aprons, the trimming being the one thing that changes to any extent.

The high-neck morning aprons are very pretty made of gingham, seersucker, chambray and like materials, and the fan-



cy white aprons can be made of English nainsook, cross-barred lawn, dimity, Persian lawn and the numerous kinds of white goods on the market.

EMMA LOUISE HAUCK ROWE.

OUR ECONOMY CLUB.

We practise a few combination economies in our "Club" that it would be worth while trying in any neighborhood or other community. I will tell you how we manage, and how we save a few of our dimes and dollars.

For instance, we all got to talking of house-cleaning in the spring at one of our late winter meetings. For we realized that that season of hard work was not far remote. And we knew that, as usual, many new articles in the line of household necessities would need to be forthcoming. They were always quite a bill of expense, and we wondered if we could not save something by buying of some things in quantity. We had heard Mrs. Sherman quote city prices and bargains, and we turned to her for suggestions. For we belong to the list of so-called "bargain-hunters," I suppose, and it seems to stand us well in hand to be on the lookout for the many and various ways and methods of dime and dollar saving.

Said Mrs. Sherman, when thus importuned to favor us with suggestions, "I know that I can save money for us all by buying a few things at least by the quantity." (By the way, Mrs. Sherman has a brother-in-law, or a somebody that is a railroad man, and she is forever in receipt of transportation passes, and can go to the city whenever she chooses. We are very glad she can, too, for it proves a help to a great many others, as well as to herself.) "Take sheeting, for instance," she said. "I priced the nine-quarter Pequot and Pepperell brands in three large department-store places in Omaha last week, and found that I could get the very best grades at eighteen cents a yard. I did not price the ten-quarter widths, ladies, for I do not like it. It is too wide for all practical purposes. A sheet two and one quarter yards in width suits me best. I have both—the nine-quarter and the ten-quarter widths. As you doubtless know, our at-home-village price for the same is twenty cents a yard. I asked if they could make a reduction when one bought the sheeting (and other goods, also) by the bolt. The reply was that if I took a bolt of it they would make it sixteen cents a yard, each bolt containing from fifty to fifty-two yards. Think what a saving, then, by purchasing by the bolt."

So "among ourselves" we ordered two bolts of nine-quarter bleached sheeting to be bought for us by Mrs. Sherman the next time she went to the city, "if she would be so kind." Needless to say, she "would be most happy to thus accommodate her club sisters." As several of the members of the club needed several pairs of sheets this spring, the two bolts were soon disposed of, and at a saving of many pennies and dimes to those who bought of it.

In the same way did Mrs. Sherman help us in our dime-saving schemes in purchasing towel by the bolt; muslin by the bolt; hosiery, for large and small, by the box and boxes; many pairs of shoes from the bargain-counters, where they were sold at seventy-five cents a pair, and shoes that only last season sold for two dollars a pair. They were a little "out of date," a little difference in shape of toes of shoes, said change being coin-toes in place of tooth-pick-toes. This part of our club institution has become a fixed thing, and Mrs. Sherman has become the one to whom we all look when in need of things for practical purposes. She now takes her trunk with her when she goes to the city. Takes it empty and brings it home full. The merchants send to the depot for it and pay drayage, for they have come to look upon her as a valuable and very desirable customer. So, you see, our Economy Club is carried on in a little different manner in several ways than are the usual clubs of this character. You shall hear more of Mrs. Sherman and her efforts in our behalf from time to time. We will tell you more of her bargains that have been and will be hunted out for us. Mrs. Phiney Brown has something to tell us of one of her pet economies now, so we give the floor to her.

"My husband always keeps so much hired help the year through," said Mrs. Brown, "and you have no idea of the quantities of bedding that it takes to keep so many beds running. Were I to buy everything new for comforters it would cost me a small fortune. The beds of the hired men are always comfortable—provided with home-made mattresses and good springs. But invariably the men are care-

less with their bedding, and I cannot, and will not, try to keep their beds furnished with pretty and new bedding. But they do not care. I doubt that they even know the difference, so long as they are comfortable in every way. I save all the strong pieces from worn-out garments of men's wear, such as plaid jackets, colored shirts, overalls or denims, in browns and blues, etc., and I piece them into large blocks or stripes, fill with cotton, and tie. I make heavy ones for winter and lightweight ones for summer use. The lightweight ones I make out of pieces of my own and the children's calico dresses and aprons, when they have become past wear as garments. I do not make the ties very close, and every two or three years I rip them apart, wash the covers, and retie. Possibly you may think I ought to blush over the admission I am about to make now," she added, after a pause, and a look that implied the thought, "wonder if I'd better tell it?" But I shall not blush a bit. And the admission is this: I use flour-sacks for pillow-slips on the men's beds, and make my pillows to fit them. It requires so very many pairs of pillow-cases, and I've neither time nor money to expend upon 'made' ones. I find the men not at all particular about keeping their heads even reasonably clean, nor do they often think it necessary to take a bath, and their beds get shamefully soiled in less than three nights. It is impossible to take any



great amount of pride in making them nice bedding. My conscience is clear when I have provided springs and mattresses and made them comfortable. I have two city friends who always save me all their flour-sacks, and I use them for a great many things."

"Flour-sacks," said Mrs. Mary Dillou, "why, I hardly know how I would keep house without them. They are a perfect boon to women who are obliged to economize in every possible way. And I'm one of them. I color them occasionally, and make comforter-linings of them. They are very pretty, too, and serviceable and cheap, assuredly. I've made table-cloths of them, too, and prefer even this kind of a table-cloth to none for every-day use. They make good linings, and they make nice tea-towels. However, for tea-towels I prefer sugar-sacks. They are so much softer and thinner than flour-sacks, and I purchase them at the grocer's two for five cents. But we have heard so much of flour-sack economy for years that we will forego the pleasure (?) of more of it for to-day. Mrs. Anna Dana has something to tell us, I know," and Mrs. Dillou bowed in her direction as she sat down.

"I run the risk of being considered ever so slack a housekeeper in making known my pet economy," says Mrs. Dana. "My greatest economy is of time, and I resort to several ways of saving it. For I have so many 'irons in the fire,' and feel the necessity and a desire to keep them there. As my family is small, I can get along nicely by washing dishes but once a day, usually. This is not only an economy of time, but also of fuel. For I do my cooking, and all my work requiring fuel, by aid of the gasoline-stove almost the year through. The same dish-water that will be

required for a small lot of dishes will just as effectually cleanse a larger number of pieces, and this same rule applies in the saving of gasoline. See? The dirty dishes are piled up in a dish-pan and put away out of sight and away from dust and flies, and for two entire meals remain unwashed. I save hours of time in this way, too. My housework entire is often left until afternoon or toward evening (except the getting of meals and brushing out the kitchen). I am well aware that did we farm heavily, and were my family larger than "just we two," I could not do this. But situated as I am I can do so. Whenever I feel like writing, the morning hours are given to my desk-work. For it is in the morning hours that I can do my best work in that direction. I shut myself in my little ten-by-twelve 'den,' and am oblivious to all around me, and not hindered or caught by neighbors. Oh, but it's a lovely life—this farm-life of mine, ladies. I never want to live in a village or city again. I can sweep, wash dishes and dust and straighten when I'm too tired to think. You may imagine my house in a perpetual state of disorder. But it isn't. I have learned pretty well the import of 'management,' and it works wonders. You are at liberty to step in any time and see for yourselves." HELEN HARRINGTON.

CHOICE RECIPES.

STRAWBERRY ICE-CREAM.—Sprinkle sugar over strawberries, mash well and rub them through a sieve. To a pint of the juice add half a pint of good cream. Make very sweet, and freeze in the usual way. When beginning to set stir in lightly one pint of cream (whipped), lastly a handful of whole strawberries, sweetened. Put into a mold, which embed in ice.

SWANSDOWN CREAM.—Whip a pint of rich cream until stiff; beat the whites of two eggs to a froth, add one cupful of sugar, and flavor with extract of bitter almond. Beat all together, and set on ice for fifteen or twenty minutes. Send to the table in a glass dish set in a bowl of cracked ice.

COFFEE JELLY.—Take three cupfuls of coffee, one half package of good gelatin dissolved in hot water, one fourth of a cupful of sugar; mix well together, and strain. Set on ice to harden, and serve with whipped cream, sweetened. It is better made the day before using.

CHEESE STRAWS.—

3 tablespoonfuls of flour,
3 tablespoonfuls of grated cheese,
1 tablespoonful of butter,
1 tablespoonful of milk,
½ teaspoonful of salt,
¼ teaspoonful of pepper,
Yolk of one egg.

Mix together dry, and add the milk last; cut in strips, and bake. Are very pretty tied with yellow ribbon for any reception or five-o'clock tea.

MRS. J. R. MACKINTOSH.

BOYS' OVERALLS.

Each summer steadily (if slowly at first) increases the use of boys' overalls, which run in sizes for boys up to ten years of age. Small boys have a great affinity for dirt in all its different forms, and dirt in turn has a like affinity for nice clean clothes, stockings, trousers and shirt-waists.

Give a boy, however, a pair of good, stout overalls, and the wear and tear on his clothes will be greatly diminished and his happiness in like proportion increased. The heavy gingham, sold for men's overalls, is just the thing for the growing small boy, as it will stand a great deal of hard usage.

But do I hear some one say that these overalls are ugly? Not so: they are so sensible and practical-looking and afford so much actual and apparent comfort to the wearer that one rejoices with the small boy and never for a moment thinks that his habiliments, if that term be not too dignified, are at all ugly. "Handsome is as handsome does."

EMMA LOUISE HAUCK ROWE.

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Our Household.

A CHEERFUL WOMAN A BENEDICTION IN HER HOME AND COMMUNITY.

"Count that day lost whose low descending sun
Views from thy hand no worthy action done."

SOME days, when it seems to me as if the whole world and everybody in it was made on the bias, I suddenly encounter one of those cheerful, pleasant women, and then the whole complexion of things seems changed. Ah, what a gift some people have in this direction! Some women cling to their own homes like the honeysuckle over the door; yet like it, fill all the region about with the subtle fragrance of their goodness. They are so richly endowed with all those qualities which conduce to the joy of his or her kind that even the weather and atmospheric changes cannot touch their sunshiny nature. There is an idea prevalent that riches point the surest way to happiness, and mankind clings to that belief despite the practical proofs to the contrary with which they have been furnished.

Happiness depends upon neither wealth nor poverty, but entirely upon the person seeking it, the disposition to accept it, and the capacity for accepting the means placed at their disposal to accomplish the desired end. There is where the true secret lies.

Happiness belongs to no particular family, nor is it ever inherited; but it is within the reach of every individual, and all that is to be done is to cultivate an earnest spirit of contentment and cheerfulness, avoid coyness and a spirit of deploring one's situation. The happy woman—how we all recognize and feel her presence the moment she crosses our path—she is a living justification of the ways of Providence. She takes troubles as they were meant to be taken, naturally and wholesomely; instead of making her bitter or rebellious, they leave her heart full of sweet compassion for others who have suffered, and her friends instinctively turn to her to get rest, cheer and sunshine.

The cheerful woman, how the heart leaps up to meet her sunshiny face; her heart has learned to look on the bright side from conscientious principles, believing in God, enjoys to the full the good he sends her, and bearing as best she can the evil he permits, whether she understands or not. And now that another day is drawing to its close, the thought of this cheerful woman makes me commune with myself, and ask the question: "What have I done to cheer some lonely heart, to encourage some dependent one, or throw the mantle of charity over some erring one's faults? What have I done to-day that has made the world brighter for my having lived it, or the day gladder because I was spared to appropriate its hours?" Day in and day out—there is no to-morrow, and thus we should work to-day. What a pity we do not always act promptly in response to our better natures. It is in the little things, the words we leave unsaid, the things we leave undone, that gives us the headache when nightfall comes. It's our loved ones that get the bitter, sharp word, oftentimes, and now before it is too late let us commune with our better natures and promise to do better things, to follow the Golden Rule as nearly as we can day after day, and above all cultivate a cheerful, happy spirit.

SARA H. HENTON.

A CHAPTER ON CANNING.

QUINCE PRESERVES.—Quarter the quinces, weigh them, allowing an equal weight for sugar. Cover with cold water, and put on to cook. As soon as it begins to boil add a little of the sugar, pressing the fruit down under the liquid and skimming often; gradually add the rest of the sugar in the same manner. Do not stir them, only press them down. They should cook slowly until perfectly tender, then be taken out one by one with a silver nut-pick and packed in the jar, after which the interstices are to be filled up with juice and the jar sealed. If any juice remains it may be boiled down, and delicious jelly will result.

CANNED PEACHES.—Much of the delicious personal flavor of the peach is lost if the seeds are removed in canning. Adding a few seeds to the syrup is better than no seeds at all, if one must halve or quarter the peach. If peaches are to be preserved whole, glaze a little less than one

pound of sugar will be required for a pound of fruit. Do not peel in the old-fashioned manner with a knife, but immerse in scalding water for a few moments, treat to a shower-bath of cold water, then strip off the skins easily. A little lye made from wood-ashes added to the scalding water will aid in loosening the skin if the fruit is a little green, and will not injure the flavor or delicacy of the peach. Use as little water as possible for the syrup, put the peaches in one by one until transparent, then pack into jars; after straining the syrup, pour it over the peaches in the jar, and seal quickly. Another method is to put peaches and sugar together in a large dish, and cover tightly. Let remain over night; in the morning boil them slowly until tender and transparent, trying them with a toothpick. Still another way is to put the peaches on in cold water, if they have been pared by hand, then drain, and put in syrup previously prepared. Do not allow to boil, only simmer, and remove from the fire before they are soft. Can quickly.

PEARS.—Pears may be put up in any of the foregoing ways, or they may be immersed in a weak solution of lime-water for a few moments after being peeled, then rinsed in clear, cold water. This lime-water preserves the shape for preserves or pickles. They may then be dropped in the boiling syrup for an instant till all boil, then the whole removed from the fire and set away as it is till the next day. (Perfectly new granite or porcelain must be used in cooking.) The next morning all are heated again and the pears packed in the jar, the syrup boiled down somewhat more, then poured over the fruit. The next morning the syrup alone is poured off and boiled down, then again poured over. This continue for eight consecutive mornings, when the pears are finally sealed up.

PLUMS.—The skin of plums should be pierced with a pin before they are cooked. The best way to can plums is to allow them to stand in sugar over night; a layer of plums and a layer of sugar, then covered. In the morning place in the kettle, and heat quickly. Skim carefully, and can according to former directions.

GRAPE PRESERVES.—After picking over the grapes carefully and washing thoroughly, slip the skin from the pulp. Cook the skins in one kettle and the pulp in another. Strain the pulp through a sieve, throwing away the seeds. Add the skins, and again cook pulp, skins and an equal amount of sugar together for twenty minutes, then place in jars. It must be stirred often to prevent burning.

CANNED CHERRIES.—For one quart of fruit a scant cupful of sugar is needed. Put in layers in the jar until almost full—first sugar, then cherries. Place the jars in a boiler with slats in the bottom. Put in sufficient water to come to the neck of the jar. As for other fruit, cover the jars, but do not screw the lids down. In the preserving-kettle have some syrup preparing. When the sugar in the jars is melted and made into syrup add enough from the kettle to fill the jars, and seal.

PRESERVED CHERRIES.—Look over carefully, discarding any doubtful ones. When stoning be careful to save all the juice. For the sweet varieties a little less than a pound of sugar for one of fruit is needed. Put the sugar over the stoned cherries and juice, allowing them "to set" for a couple of hours, then place over the range where there is a slow fire, and cook until done; then can. ELLA BARTLETT SIMMONS.

THE KITCHEN CLUB—A BATTER-CAKE TALK.

"If you haven't got eggs enough, or milk enough, put lots of grease on the griddle." Little fat Mrs. Tinkham, who sat in the window-sill, beamed about at everybody as if she had solved the whole batter-cake problem.

Miss Tildy Pettibone's nose would have gone up if it had been that style of a nose. "Now, I just tell you what, Peggy Tinkham," said she, "if you want to make misanthropes and dyspeptics and all manner of cranks of your family, feed them tough batter-cakes fried in a lot of fat—ah! it makes me feel squirmy. Now, I'll tell you how to make batter-cakes fit for the queen of the fairies to sail through the air on. First, don't make them until you've got eggs enough and milk enough. Then take a two-quart china bowl, take your sifter full of flour, put into it a teaspoonful of good baking-powder and a pinch of salt, and sift all together. Then

pour in sweet milk, and stir away like the three witches until there isn't a lump as big as a pinhead. Then don't skinch on eggs; for a quart of the batter-cake take three or four eggs, and beat 'em light and put in the last thing. Have your griddle good and hot, and if you must bow to the yoke of grease, take a nice, sweet bacon rind and rub a delicate film over the griddle; put on a spoonful of the batter, evenly (and mind you have it very thin), bake a dainty amber on both sides, and la me! don't talk, children; they won't be flannel, they'll be velvet cakes!"

"But my stars!" expostulated sister Dorinda, whose family have positively never-failing appetites. "If I made such embroidery things as that, George and the children would eat twenty-five apiece, and your quart or two quart bowl wouldn't be anywhere; I'd have to make a dish-panful, and to supply eggs in that proportion would break George up. Now, I'll tell you how I make pancakes, good ones, too. I sift my flour in a big bowl, pour in either buttermilk or clabber enough to make a tolerably thick batter, stir in a pinch of salt and a good teaspoonful of soda to every pint of sour milk I have used, dissolved in a very little warm water (if very sour milk is used allow a little more soda), and then add my eggs, generally two to a batch of cakes, first beating them well. I'm like Peggy about grease; I put a good lot of bacon gravy on my griddle, fry small cakes, three at one time, on a round griddle, and they come off in little soft puffy rounds, all frizzly and crimping around the edges, light and sweet inside, brown outside, and George falls on them and devours them most flatteringly, and the children, like the little cherubs of patent medicine advertisements, 'cry for them.'"

"Well, those might do," said Miss Tildy, in a tone which proclaimed that she didn't take any stock in Dorinda's recipe, "but you try my way; and don't be stingy with your eggs; if the batter don't hold out sufficiently for George and the children's appetites, limit 'em."

"Limit your grandmother!" returned Dorinda, inelegantly.

"Well," commented Peggy Tinkham, as she got up and pulled on her sunbounet, "you pays your money and you takes your choice. I must go home and get supper for my Jim." And as she whisked her ging-ham wrapper out of the back door she added, with all the persistency of the little cottage girl who would have it that they were seven. "As for me, when I don't have eggs enough, or milk enough, I put lots of grease on the griddle."

And the kitchen club adjourned.

PRISCILLA PIPER.

CHILE CON CARNE, ETC.

Remove the seed from one dozen large red peppers (bell-peppers). Place the pepper-hulls in a pint of water, and boil until so soft that they can be worked to a paste with a spoon. Work the peppers and the water in which they were boiled smooth, strain, and add a pinch of salt, a small garlic-button or a little onion finely minced. Add enough flour to make the mixture the consistency of cream. Now stir in an equal quantity of chopped cold boiled ham (lean part), chicken, veal or beef, as preferred.

Frijole croquettes is another peppery dish much relished, and they are made thus: Boil a pint of brown beans (with two pepper-pods) until well done and dry, season with butter, salt and black pepper, mash fine and perfectly smooth, make out into little cakes, dip in beaten eggs, roll in cracker-crumbs, and fry until brown. MRS. W. L. TABOR.

A GREAT IMPROVEMENT.

From Cincinnati Times-Star, June 2d.

The "Michigan Flyer" and "The Cincinnati Limited," running on the C. H. & D. and Michigan Central railways between Cincinnati, Toledo and Detroit, are acknowledged to be the handsomest trains in the West. These trains are broad end vestibuled, beautiful parlor cars and the highest type of modern equipment. The only feature lacking to make the service perfect is the fact that the train leaving Cincinnati at 1 o'clock P. M., northbound, and leaving Detroit at 12:35 southbound, these being inconvenient hours for people desiring to get their luncheon before starting. The management have now arranged to put on a cafe service, under the supervision of Mr. George Ohmer, who runs the cafe-car on their Chicago line, and these trains will now be fully equipped. Not only through passengers, but passengers between Cincinnati and Dayton, can enjoy the scenery of the beautiful Miami valley while being served with as dainty a meal a la carte as can be desired.

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The most remarkable medical discovery of the decade is the German Compound originated by Dr. Erastus Baum, of Berlin, which learned medical men say is an absolute cure for Falling of the Womb, Leucorrhoea, Whites, Inflammation of the Ovaries, and Female Weakness in all its phases.

Thousands of cases which even hospital treatment failed to cure have demonstrated the marvelous curative properties of this great specific, and so far not a single failure to cure has been recorded.

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No. 7364.—GIRLS' SHIRT-WAIST. 10c. Sizes, 6, 8, 10 and 12 years.

Our Sunday Afternoon.

WHEN SORROW CAME.

When sorrow came I did not look
For any visitor that day,
But in beside the ingle-nook
She slipped in calm, familiar way,
As one, a dear and privileged guest,
Who pushes wide a door ajar,
And, seeking only friendly rest,
Sits down where only kindred are.

And first surprised I scarcely knew
A word to greet the stranger face;
There crept a numbing shadow through
The brightness of my dwelling-place.
So dumb her lips, so veiled her eyes,
So chill the hand in mine she laid,
The sunshine vanished from the skies,
And in the cloud I knelt, afraid.

But sorrow staid until I heard,
In that hushed silence round her drawn,
Voices more sweet than song of bird,
The tender tones of loved ones gone;
And floating from the silvery shore,
Whereon the ransomed walked serene,
Came wafts of fragrance blown before
The angels as they hither lean.

Then, swift transfigured, Sorrow turned;
Her look was wonderful to see,
My very soul within me burned.
For Love in sorrow died for me;
And Love appoints my sorrow still,
And sacramental cups are ponied
Where I and Sorrow, if God will,
Meet and hold tryst with my dear Lord.
—Margaret E. Sangster, in The Congrega-
tionalist.

FRESH AIR IN THE BEDROOM.

THE result of fresh air in the sleep-
ing-room will be felt in various sub-
tle ways—in quieter nerves, greater
amiability, brighter eyes and clear-
er mind and complexion. And though the
subject is often discussed, it is worthy of
attention when we realize its benefits.

There are several points to consider in
ventilating sleeping apartments. First, it
is important that the air should be pure
and the value of fresh air recognized.
Then the physical condition of the sleeper
should be thought of. The same amount
of outside air and the same temperature
cannot be endured alike by every one. It
sometimes happens that the admission of
fresh air during the night renders the
sleeper uncomfortably cold. When this is
the case, the object of the open window
or fresh-air current is defeated.

A window raised a very little at top and
bottom is better than a wide space. A
transom opening upon a ventilated room is
excellent for delicate people who cannot
bear a direct current in the room.

Study comfort. It is a well-known truth
that animals must be warmly housed at
night in order to thrive in cold weather.
The fact is none the less true of human
beings. Thought—that is, intelligent
thought—should be exercised.

No fixed rule for ventilating at night can
be followed on all occasions. Better no
outside ventilation than excessive cold
where misery attends. Warmth and fresh
air combined is the end sought. It pays
to study this problem when we remember
that fully one third of our life is spent in
the sleeping-room.

As one lady says, "Sleep is so much
deeper and more perfect when there is
plenty of fresh air in the room." The
clothing worn during the day may always
be placed at night where fresh air will
find it; and the same with that worn at
night. During the day fresh air will thor-
oughly permeate it. If the rule of fresh
air for the clothing, as well as for the room,
is followed, there will be even greater gain
in the important matters of quieter nerves
and brighter faces.—Christian Work.

WHICH PAID BEST?

A true story connected with the Klon-
dike gold discoveries seems to point a
moral without needing any explanation.

After the first lucky gold-miners had ar-
rived in San Francisco, a Christian man
was talking with one of them and asked
him what they did in regard to religion up
in the Yukon country.

"Oh, we don't have any religion up
there," said the miner.

"You do not? What do you mean?"

"No; we can't bother about such things."

"No?"

"We can't spend the time. You don't
suppose a man is going to lay off a day just
because it's the Sabbath, where there are

a couple of hundred dollars in sight for him
to pick up? No, sir."

"Well! Well! Didn't a single man stop
on the Sabbath?"

"Yes; come to think of it, I believe I did
hear of one. I think his name was Leppy.
Some one said he had been secretary of a
Y. M. C. A. in Seattle before he went
north. He came down on the boat with
us."

"How much did he bring with him?"

"Something over sixty-five thousand,
they said."

"And how much did the rest of you
bring?"

"We cleaned up between five and ten
thousand dollars apiece."

EXCESSIVE EATING.

Large eaters are generally deficient in
activity and endurance. I used to know
one who was a curiosity. He worked in a
small wood-turning shop, and ate five times
a day. When he consulted me about his
"poor stomach" I told him flatly that he
was a pig. He replied, "You are mistaken.
I am faint half the time, and have to eat
extra meals to keep up my strength." I
went at him with fact and physiology. At
length he was convinced, and promised me
that he would follow my prescription,
which was this: Take but two meals a
day. In fifteen days his faintness had dis-
appeared and he rapidly recovered. To-
day he is a healthy, active man, and a
warm advocate of two meals a day, and
moderate ones. Temperate people with
good digestion never feel their stomachs—
forget they have stomachs—while these
big eaters are always hungry, faint or
bloated, troubled with eructations, acidity,
diarrhea, or some other unhappy condi-
tion of the digestive apparatus.

For years the author had eaten three
hearty meals a day. At length, upon a
careful consideration of the physiology of
digestion, he thought he was probably
using too much of his force in that func-
tion. He reduced to two meals a day.
He cannot express what freedom of mental
and bodily activity he experienced. Men
with large heads and well-made bodies
sometimes consume so much of their nerve
force in digestion that they have nothing
left with which to achieve those triumphs
that otherwise would be easy to them.—
Dr. Dio Lewis, in Journal of Hygiene.

RESPECT FOR AGE.

The old are entitled to veneration. Their
gray hairs, which Solomon likens to the
white flowers of the almond-tree, wrin-
kled brows, their furrowed cheeks and
their bending forms bespeak a long struggle
with existence as well as indicate the rav-
ages of time. Their seniority calls for
honorable recognition and respectful treat-
ment. The Bible says: "Thou shalt rise
up before the hoary head, and honor the
face of the old man." Though feeble in
step, weak in body, slow in action and de-
liberate in counsel, the aged carry in their
persons the experience of a long and check-
ered career. They wear the stamp of
nature's nobility. They are the veterans
of life's conflict.

Some one has said, "Deal gently with
the old, for they have come a long way,
and be kind to the young, for they have
a long journey before them."

Some people are by the old as they would
be by an old garment or a worn-out piece
of machinery; throw it aside. We should
think of the Golden Rule, for some day
we may be old.—The Presbyterian.

TRUTH GONE AWRY.

The Sunday-school teacher has to be very
careful lest she undo her teaching before
the class by her conduct at other times.
The birds on her bonnet may teach the
boys more than lips can. The San Fran-
cisco "Argus" gives an example:

"A Philadelphia girl, who wore pretty
gowns and bonnets, tried to train her large
primary class in a mission school in habits
of systematic and intelligent giving. Their
offerings were sent to the support of a
little Chinese girl in the home in San Fran-
cisco, and often and patiently did the
teacher go over the story of the little girl
rescued from a home of cruelty and neg-
lect, and tell the children how their pennies
helped to teach her about Jesus. They
listened with apparent interest and under-
standing. One Sunday, to make sure that
her words sank into comprehending hearts,
she inquired, 'Now, children, what do I
do with this money you bring every Sun-

day?' An unexpected stillness was the
only answer. Surprised, she repeated the
question. 'This money, you know, that you
bring every Sunday. I have often told
you; now who can tell what I do with it?'
One shrill voice replied, 'Yer buy yer hats
with it?'

WAR NEEDS.

To supply the army and navy of the
United States now expanded to a war foot-
ing very large demands are being made on
the American Bible Society for pocket tes-
taments. Tens of thousands of copies have
been called for by chaplains of regiments,
Young Men's Christian Association officers,
and other responsible parties who are at
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at the front. Care is used to insure the
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friendly word with each man. Deprived
as they are of reading matter, they gladly
accept the books, and will treasure them
as a souvenir of the war.

Our brave boys in blue who are exposing
their lives for country and humanity are
exposed also to the passions and demoral-
izing influences of war. It is a sacred
and patriotic duty to equip them with "the
sword of the Spirit which is the Word of
God."

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Smiles.

THE COCK AND THE PEARL.

A rooster once pursued a worm
That lingered not to brave him;
To see his wretched victim squirm
A pleasant thrill it gave him.
He summoned all his kith and kin;
They hastened up by legions,
With quaint, expressive gurgles in
Their esophageal regions.

Just then a kind of glimmering
Attracted his attention,
The worm became too small a thing
For more than passing mention;
The throng of hungry hens and rude
He skillfully evaded.

Saith he: "I faith, if this be food,
I saw the prize ere they did."

It was a large and costly pearl,
Belonging in a necklace,
And dropped by some neglectful girl—
Some people are so reckless!
The cock assumed an air forlorn,
And cried: "It's really cruel.
I thought it was a grain of corn;
It's nothing but a jewel."

He turned again to where his clan,
In one astounding tangle,
In eager haste together ran
To slay the helpless angle,
And sighed: "He was of massive size!
I should have used discretion.
Too late! Around the toothsome prize
A bargain sale's in session!"

The worm's remarks upon his plight
Have never been recorded,
But any one will know how slight
Diversion it afforded.
For worms and human beings are
Unanimous that, when pecked,
To be the prey of men they far
Prefer to being henpecked.

THE MORAL: When your dinner comes,
Don't leave it for your neighbors
Because you hear the sound of drums
And see the gleam of sabers;
Or, like the cock, you'll find too late
That ornaments external
Do not for certain indicate
A bona fide kernel.

—Harper's Bazar.

WORTHY AN "AMEN."

Oh, could there in this world be found
Some little spot of happy ground
Without the village tattling,
How doubly blest that spot would be,
Where all might dwell in liberty,
—Free from the bitter misery
Of gossips' endless prattling!
Oh, that the mischief-making crew
Were all reduced to one or two,
—And they were painted red or blue,
That every one might know them!

MELTED TO TEARS IN A MINUTE.

ONCE SAW a stern man melt into pity and
tears," said Eli Perkins, at a Grand Army
lecture. "Major Banks, a brave officer, was
captured by the Confederates at Balls
Bluff and was taken to Andersonville,
where he suffered untold misery. After the
war was over the major resumed his law
practice. On a certain occasion he was called
upon to cross-examine a witness. He was a
modest fellow, but the major handled him
without gloves.

"Have you ever been in prison?" asked
the judge, savagely.

"The witness did not answer.

"Come, now, speak up, no concealment.
Have you ever been in prison, sir?"

"Yes, sir, once," answered the witness,
looking modestly down to the floor.

"Yes, I thought so. Now, when? When
were you in prison, sir?"

"In 1863."

"Where, sir?"

"The witness hesitated.

"Where was it?"

"In—in—in—"

"Don't stammer, sir! Out with it!" said
the lawyer. "Now, where were you in prison,
sir?"

"In—in Andersonville, sir."

"There was a moment's painful pause. Then
the major put his hand to his forehead as
if a pistol-shot had struck him, while the
tears came to his eyes. Then jumping for-
ward, he clasped his arms around the wit-
ness' neck, and exclaimed: 'My God! I
was there myself!'"

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to any dollar magazine of its class; and as
your agents supply Peerless Atlas of the
World in addition to the magazine, all for one
dollar, it makes business lively. I hand you
my seventeenth order for Atlases herewith."
—S. W. Hinckley, Los Angeles, Cal.

WAIL OF A FATHER.

He was gloomy and depressed, and ever and
anon he clenched his hands and gritted his
teeth, as if he would enjoy encompassing the
death of some one.

"If I could only find him!" he exclaimed.

"Who?" they asked.

"The man who invented the jumping-rope,"
he replied.

"What's the matter with him?" they per-
sisted.

"Matter with him!" he cried. "You ev-
idently don't know that I am the father of a
family of four girls."

"Well?"

"Well, I am rapidly going broke buying
shoes and getting them resoled."—Chicago
Post.

VARIATIONS ON AN ANCIENT THEME.

"My wife," said the tall, lantern-jawed
man, "is as womanly a woman as you could
find, but she can hammer nails like light-
ning."

"Wonderful!" sang the chorus.

"Lightning," the tall, lantern-jawed man
continued, "seldom strikes twice in the same
place."—Cincinnati Enquirer.

HE SILENCED HIS MOTHER.

Willie Smith was playing with the Jones
boys. His mother called him, and said, "Wil-
lie, don't you know those Jones boys are
bad boys for you to play with?"

"Yes, mama," replied Willie, "I know that;
but don't you know I am a good boy for them
to play with?"

ANOTHER ENGAGEMENT.

"There's been another engagement," said
young Mr. Dolley, who had been reading the
latest war news.

"Oh, dear," sighed Miss Frocks, "I wish I
could be in an engagement."

And in a few minutes she was right in
one.—Harper's Bazar.

FASTIDIOUS.

Photographer—"That woman who just went
out was very hard to please. She selected
the first proof I gave her."

Friend—"Call that hard to please?"

Photographer—"Yes; she sat seven more
before she made up her mind."—Puck.

THE THRIFTY SHOPKEEPERS.

Mrs. Bargain-Friend—"I wonder how those
little one-cent shops ever came to be in-
vented?"

Her husband—"I suppose to use up what's
left of the dollar after the 99-cent stores get
through with it."—Toronto News.

ROMANCE AND REALITY.

First college girl—"What is to be the title
of your graduating essay?"

Second college girl—"Beyond the Alps Lies
Italy." What's the title of yours?"

First college girl—"Beyond the altar lies
the wash-tub!"—Judge.

HURRIED DEPARTURE.

"What were your uncle's last words?"

"He hadn't time for any; it was a folding-
bed."—Chicago Record.

LITTLE BITS.

"How do you tell the age of a turkey?"

"By the teeth."

"But a turkey hasn't teeth."

"No, but I have."

Boston man—"Is St. Louis really as slow
as people say it is?"

Chicago man—"Worse; some of the res-
idents actually die of old age."—The North-
west.

Bacon—"Is that man Crimsoubeak in favor
of war?"

Egbert—"No, indeed! Every night he's out
late he takes home oysters or something to
his wife. I think he's for peace at any
price."—Yonkers Statesman.

Old farmer—"That's a fine lot of pigs over
there. What do you feed them?"

Amateur—"Why, corn of course."

Old farmer—"In the ear?"

Amateur—"Certainly not; in the mouth."—
Chicago News.

Mrs. Longwed (yawning)—"Oh, dear! I won-
der if angels ever get sleepy?"

Mr. Longwed—"You never did when I was
courting you, darling."

Then the old rascal kissed his wife and
went to the club without a struggle.—Vanity
Fair.

Abraham—"Vere vos you all dis day?"

Ikey—"Fadder, I vos in de woods, an' I
saw a nestful of young burts, an' dey did
nothin' but sing 'cheep! cheep!'"

Abraham—"Mine cracious, Ikey, get all dem
burts you can. I'll hang dem in der front
window an' let dem holler 'bont de goots."—
Pittsburg Bulletin.

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Miscellaneous.

A RUBY-THROATED HUMMING-BIRD.

THE Cuvier Club has received from R. H. Hosea a beautiful specimen of the brilliant "ruby-throated humming-bird" found dead in a car of roses from the south that was being unloaded here. This is the only species of humming-bird found in the eastern United States. Its range being from our southern border to Canada. Of five hundred species of humming-birds now known this is the only one that visits Ohio. Its plumage is very brilliant, the throat being a rich ruby-red, the back and sides green. Its flight is so rapid that the eye cannot follow it. Its nest, a marvel of elegance, contains two snow-white eggs no larger than beans, two being the full complement. Strong, active and courageous, it drives away from its nursery birds many times larger. It hurls itself with such fury that an intruder is glad to beat a hasty retreat. This tiny bird, no larger than a "bumblebee," makes a journey of nearly two thousand miles twice a year. It winters in Central America, and some of the birds go as far north as Canada to rear their broods. This wonderful little bird darts away on its long journey without compass or chart, yet with unerring certainty reaches the spot where it nested the year before. Its food consists of minute insects that it extracts from blossoms. It poises itself for an instant over a flower, its slender wings vibrating so rapidly as to be invisible; in a second it darts away like a meteor and is gone.

This is one of the few birds that are beloved, and amid the sweet dewy serenity of a summer's morning its appearance among the arhurs of honeysuckles and beds of flowers is truly interesting.

When morning dawns, and the blest sun again

Lifts his red glories from the eastern main,
Then through our woodhines, wet with glittering dews,

The flower-fed humming-bird his round pursues:

Sips with inserted tube the honeyed blooms,
And chirps his gratitude as round he roams;
While richest roses, though in crimson drest,
Shrink from the splendor of his gorgeous breast.

What heavenly tints in mingling radiance fly!
Each rapid movement gives a different dye;
Like scales of burnished gold they dazzling show,

Now sink to shade, now like a furnace glow!
—Cincinnati Commercial-Tribune.

AN ODD SURPRISE.

It was before the order was issued closing the navy-yard to visitors that two officers who were in the gun-shop met with an odd surprise. They were talking over some technicalities of warfare, and paused to lean against the muzzle of one of the steel murder monsters which awaited final touches of the mechanic's skill. Into the midst of the conversation floated the strange inquiry:

"Does oo love ums?"

And the response came in a higher, but just as tender key:

"Yumps. An' do oo love uzzins?"

The unintended auditors gazed about in startled inquiry. Only the subject matter prevented the impression that it was a supernatural demonstration. No ghost ever said anything like that. Their eyes searched in vain for explanation of the phenomenon. The men were all busy at their lathes. There was no tableau in sight which would serve a logical accompaniment of the dialogue.

"Some ventriloquist is playing a trick on us," said one of the naval men.

"I don't believe any ventriloquist would talk such idiocy," was the reply. Again the tender murmur came floating upon the air:

"Does lovey want another bitey-wite of candy?"

With a common impulse the two men quitted the spot. It was more than warriors and sea-dogs could endure. As they moved away the breech of the gun came into their vision. A block of wood made a comfortable seat, and upon it were a bridal couple eating confectionery and conjugating the verb "to love," wholly unconscious that there is no better speaking-tube than a thirteen-inch gun. It was the old story of the birds who built a nest in the cannon's mouth.—Washington Star.

FRUIT GLACE.

Divide oranges into sections after paring, and pick over white and purple grapes; then holl together one cupful of granulated sugar, the same quantity of cold water and the juice of one lemon; do not stir it while holling. A small granite-iron saucepan is best to cook it in, and it is ready for use when a little taken upon a fork will form a brittle thread if exposed to the air or dipped in water. Keep the syrup hot by placing over the tea-kettle or setting it in a basin of holling water. Then take each piece of fruit on a fork or skewer and, dipping it into the syrup, lay it on a buttered platter and set in a cool place.—Oregon Agriculturist.

BURDOCK AS A VEGETABLE.

What is even regarded as a vile weed can, with a little stretch of imagination, be turned into an ornamental plant or delicious vegetable. This is especially the case with the common burdock, *Lappa major*. School-boys all know it from gathering the burrs and compressing them into a ball, they being held together by the curved points of the floral involucre. This is all they know about it. It is difficult to see anything more to be despised in the burdock-leaf than in the leaf of the rhubarb. It appears that it is largely used in China for food. But it is stated that, if the stalks be cut down before the flowers expand and then be boiled, the taste is relished equally with asparagus. The leaves, when young, are boiled and eaten as we eat spinach. In Japan it is in universal use. Thousands of acres are devoted to its culture. But in this case the root is the object. It requires deep soil to get the roots to the best advantage. The common name in China is Gohho—a name, however, which need not replace our common one of burdock.—Meehan's Monthly.

A TEXT WRONG BUT OPPOSITE.

During the recent session in New Orleans of the General Assembly of the Southern Presbyterian church one hot afternoon, there had been several very long and somewhat irksome addresses, and another was beginning when the stated clerk arose and read the following greetings from the Cumberland Presbyterian General Assembly: "Acts xxiii. 2." The speaker who was addressing the house paused until some one with a Bible could read the reference. Imagine his consternation when the passage was read as follows: "The high priest Ananias commanded them that stood by him to smite him on the mouth." It is said that it took a large part of two days for the telegraph operator to correct his error and report the reference in the telegram as it should have been, Acts xx. 32. "And now, brethren, I commend you to God, and to the word of his grace, which is able to build you up, and to give you an inheritance among all of them which are sanctified."—Cumberland Presbyterian.

RUNNING A BLOCKADE.

General Lew Wallace, of Indiana, relates an interesting story of how an English vessel ran the blockade of Galveston, Texas, during the late war. He witnessed the feat, and could not understand how the vessel got past the American ships, bombarded as it was with shot and shell. Afterward General Wallace met a Confederate who was familiar with the incident. "Do you mean to say," asked the general of the Confederate, "that the blockade-runner passed in without losing a man?" "On, no," said the Confederate; "five men were killed at the wheel." "There is something else I should like to know," said General Wallace, "and that is the nationality of the man who ran that blockade." "I'll tell you that," laughed the Confederate, slapping his leg; "that man was a Yankee from the state of Massachusetts."—St. Louis Republic.

RED RAIN DUST.

Much interest was manifested in a paper read by Thomas Steel on "Red Rain Dust" at the recent meeting of the Australian Association for the Advancement of Science, in the section devoted to chemistry and chemical research. The author remarked that from time to time records of the fall of dust, either alone or accompanied by rain, have been reported from various parts of the Australian colonies, in common with the rest of the world. Although it was extremely probable that in the great bulk of cases the dust was merely of terrestrial origin, it was interesting when positive facts regarding the source of the material could be ascertained. On December 27, 1896, an unusually heavy fall of dust of a red color occurred in Melbourne and was carried down by rain.

An analysis of a clean sample of this dust gave the following results: Organic matter, 10.70; sand, insoluble and undetermined, 66.21; soluble silica, .75; ferric oxide, 4.68; ferrous oxide, .50; alumina, 15.16; lime, 1.36; sulphuric anhydride, .62. The dust may therefore be regarded as a characteristic example of ordinary surface soil, such as is derived from the weathering of volcanic rocks. Both in appearance and composition it agreed closely with several samples of such soil from widely separated localities. Under the microscope, in addition to the diatoms noticed by other observers, the dust was seen to contain a few lepidopterous scales.—Nature.

LAKE SUPERIOR IRON-MINES.

There will be shipped from the Lake Superior iron-mines during the coming season not less than 14,000,000 tons of ore, of which fully one half will come from the Minnesota ranges. This prediction is made by the "Duluth Herald" after the most careful investigation, and from estimates obtained from a number of gentlemen interested on the several ranges. The allotments made by the Bessemer Ore Association may be taken as a fair indication of what the Bessemer output will be on all the old ranges, but the probable production of Mesaba and non-Bessemer ore on the other ranges must be estimated by the condition of the iron market, which, in a measure, will indicate the demand that is likely to be made.

In round numbers, the output from the several ranges will be as follows: Vermilion, 1,400,000 tons; Mesaba, 5,600,000 tons; Gogebic, 2,500,000 tons; Marquette, 2,500,000 tons; Menominee, 2,000,000 tons, the total being 14,000,000.—The Northwest.

SUDDEN INSPIRATION.

"Sir!" said the mate, touching his hat, "the bottoms of our ships are covered with grass."

"Hey?" said the Spanish admiral, rousing himself with an effort. "Then we will run into the harbor of Santiago de Cuba and feed the mules."

Subsequently he sent a dispatch to Madrid to the effect that he had succeeded in revictualing the island.—Chicago Tribune.

DO YOUR ARMS MATCH?

About fifty men out of one hundred have the right arm stronger than the left; sixteen have equal strength in both arms, and nearly thirty-four have the left arm stronger than the right.

These proportions are more evenly distributed in women. Nearly forty-seven per cent are stronger in the right arm, and about twenty-five are stronger in the left, while twenty-eight have arms of equal strength.

In the case of the lower limbs, taking men and women indifferently, it has been found that out of fifty subjects twenty-three had the left leg more developed, six showed the reverse, four more showed both the right limbs more developed, while in seventeen all the limbs were more or less unequal.

The strength of the whole body, as illustrated by lifting-power, is about two to one in favor of men.

SENSATIONAL PRESS.

The sensational press is probably to-day the worst enemy of the higher civilization in this country. It is doing more to degrade national character, to lower national taste, and to misrepresent the country in the eyes of the Old World than any other single agency. The time cannot be far distant when an organized effort will be made in some form against this centralization of the great masses of the people by newspaper enterprises, which are striving to make a profit out of the lowest instincts of the human race.—Outlook.

HIS HYPOTHESIS.

Mexican—"Big earthquake to-day."
American tourist—"Was there one? I didn't notice it?"

Mexican—"Not you see zee people rush out from the churches?"

Tourist—"Oh, yes, I saw that; but I thought maybe the contribution-box was going around."—New York Weekly.

GREEN BAY'S STRUGGLE FOR FAME.

A young lady of this city is well acquainted with a young man whose sister knew a girl who was at one time engaged to one of the men who went down with the Maine, and so Green Bay keeps well in the front rank of cities struggling for fame.—Green Bay (Wis.) Gazette.

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The illustrations of the war-ships in THE HANDY WAR BOOK (see page 19) are printed by slow presses on fine enameled paper with fine ink, and are as clear and beautiful as the photographs from which they were made. The sample picture here shown does not begin to do justice to the pictures of the different war-ships in the book.



DEWEY'S FLAG-SHIP, OLYMPIA Under EACH illustration of the war-ships in The Handy War Book a description of the vessel is given, such as dimensions, speed, number and kinds of guns, number of torpedo-tubes, thickness of armor, number of officers and men, cost of ship, etc.

FOR FULL DESCRIPTION OF THE HANDY WAR BOOK SEE PAGE 19.

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(SEE PICTURE ON PAGE 18)

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Our Farm.

BREEDING AND FEEDING THE BUTTER-COW.

AT a farmer's meeting a short time ago a young farmer remarked that his policy was "to breed for quality and feed for quantity," meaning in the dairy. This, I am sure, as I have frequently said, is the fundamental principle in the management of dairy stock. Our friend's position is this, and I am sure he is right: Select your cows from the best milking strain you can command, breed them to a sire known to have come of a high-producing butter family. For instance, to make the matter more practical and matter of fact: The cattle club bull, Sheldon of St. Lambert, No. 13831 (every Jersey breeder knows the pedigree lines), has ten daughters to his credit, raised since brought to Maine a few years ago, that have made 400 pounds of butter or over in twelve months. The last one added to his list last winter gave 8,289 pounds of milk in 1897, and last January made 20 pounds of butter in one week. This hull stands at comparatively low service. He is an animal of great individuality and prepotency—the above in evidence. Every farmer who breeds his best cows to the Sheldon of St. Lambert—they may be found scattered all through the dairy districts of the country—is certainly breeding for quality and improvement. If our farmers would exercise a little more dairy common sense the next decade would chronicle the 400-pound butter-cows as plenty as the 200 ones are now.

How about feeding. Along in the eighties I sold a neighbor a heifer just come into milk with her first calf. He took her home, and the second week in April churned twelve pounds and four ounces of butter from a week's milk. The dam had tested seventeen pounds and six and one half ounces in one week, so I was not surprised at the heifer's performance. But the point is to come. This heifer's second calf, a heifer, was presented to the daughter of a wealthy landowner who kept quite a dairy. Great things, of course, were expected of the young thing when she should become a cow. She had one, two, three calves, with the disappointing report that she was the poorest cow in the whole lot. The neighbor who raised her bantered the owner and bought the heifer back for a song. One year ago, with her next calf weaned, she made two pounds and two ounces of butter from one day's milk, and fourteen pounds and nine ounces of butter in seven days. A few days ago the owner of this cow remarked "that if this cow was the poorest one in the lot he would like to own the best one." The application of the text in this instance is that the breeding was all right, but the care and feeding all wrong.

And the above but verifies the proverb that "the breed is in the mouth." Breeding and feeding surely go together. There is more good, sound, common business sense called for to make successful dairymen than in most any other farming operation. Let me give another instance—I'm given to stating facts, you'll say, perhaps. Well, facts are worth more than theory, anyhow. A few years ago, when the Babcock test first came around, the secretary of the Maine board of agriculture engaged a man to go around in the rural towns when the board held institutes and test the milk the farmers were invited to bring in. At one of these meetings an eccentric genius, a good farmer, by the way, became mightily interested when one of his two samples of milk brought to the meeting tested five per cent butter fat, and the other but three per cent. When the matter was explained to him that five per cent milk meant about five and one half pounds of butter to the hundred pounds of milk, and three per cent only a trifle over three pounds, he thrust his hands into his trousers pockets and, looking at the Babcock machine with a twinkle in his eye, broke out: "A mighty queer bird, you be! And perhaps this is all so, but I'll be goldarned if I'll believe that our pet cow is so plaguey poor as you seem to make her out! But say," turning to the operator of the test, "you come over to my house and tell Jim how the thing is done, and leave the machine with him, can't yer? Jim will understand the thing quicker'n scat. I'm just so much interested that if I'm keeping five or six cows that aren't paying their way, as this thing seems to show to-day, I want to know it, and that right off."

The bluff old farmer and his son own a Babcock tester now. That circumstance occasioned the sale of five cows out of the herd of twenty, and the producing capacity of the herd to-day is twenty per cent higher than six years ago. I think the point is clear. **L. F. ABBOTT.**

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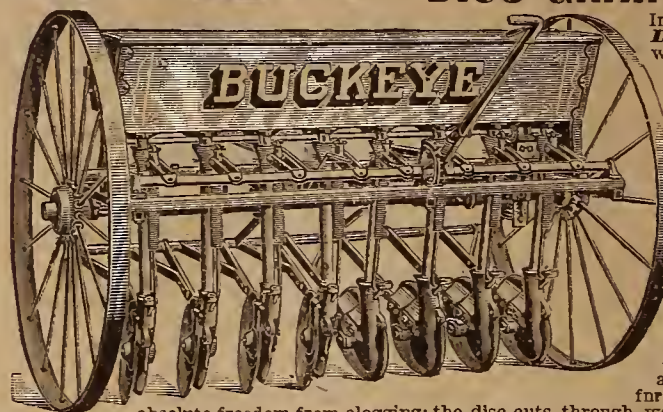
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PEACE DECLARED

The farmer has been steadily piercing the bosom of mother earth with the plow, shooting seed into the seared front of his farm with the drill, and killing weeds with the cultivator and hoe, until now peace has been declared and the American eagle soars over the most prosperous agricultural country under the shining sun.

FARM AND FIRESIDE

reaches more than 300,000 of these peace warriors, and is recognized by them as being in very truth "The Monarch of the World's Rural Press." Wise men are using this paper in the work of developing their business and popularizing their products.

WITH THE VANGUARD

THE world is not two separated hemispheres, but one globe encircled by modern civilization. The most widely separated countries have been made close neighbors by modern means of transportation and communication. Following this physical revolution is the revolution of ideas, and the world will be, in time, not old and new, but all new.

And in this history-making year of 1898 the United States has become, to paraphrase the eloquent Webster, a power which has dotted a belt around the globe with her possessions and military posts, whose morning drumbeat, following the sun, and keeping company with the hours, circles the earth with one continuous and unbroken strain of the martial airs of America.

WAR for humanity does not mean restoration of inhumanity in Spanish colonies." This statement correctly sets forth our government's "colonial policy" so far as it has been developed. It is a complete answer to the political Jabberwocks who are trying, in the midst of the war, to make an "issue" out of the war, by growling about imperialism and "colonial expansion." When asked, "What shall be done with the islands over which our flag has been, or will be, raised?" they are silent. They do not dare to say, openly, "Give them back to Spain." If they do not hold this in mind, their cry at this time about "colonial expansion" is utterly insincere.

The "expansion" involved in this war is the expansion of opportunity for the United States to give freedom, liberty and good government to millions of people who have been oppressed by Spanish misrule. The best thing for the United States to do is to live up to the opportunity.

In a baccalaureate address, President Adams, of the University of Wisconsin, recently expressed the thoughtful, conservative opinion on this subject of growing interest to all Americans.

"What has Spain ever done for civilization?" asked Dr. Adams. "What books, what inventions, have come from Spain? What discoveries in the laboratory or in scientific fields? So few have they been that they are scarcely worth mentioning.

"Examination of the Spanish character shows it to be the same as it was centuries ago. Wherever the Spaniard has endeavored to rule he has shown an unrivaled incapacity for government. And the incapacity was such and the cruelty was such that all their colonies and provinces have slipped away.

"I am not one of those who are at a loss for an answer when asked for what we are fighting for at the present time. We asked the Spaniards to improve their methods of government. They asked for time. We gave them time. There was no improvement. We asked them that they should abandon the government. No spirited nation would do that—and Spain is a spirited nation—and we now see the result.

"Our demand is—and the demand must be enforced—that this wretched government, which has too long been allowed to exist on this continent, shall exist no longer. This is what we are fighting for, and to that end we shall carry on the struggle. In so doing we have assumed great responsibilities. It is not possible to see what the end will be. It is difficult to know whether we can throw off any part of the responsibilities that will come by the occupation of islands that we may take possession of. Certainly we have no thought of taking possession of them for our own benefit.

"But if, after we have taken possession of them, it shall be found impossible to provide in any other way a reasonably good form of government, it seems to me that the same motives which lead to their occupation will lead us to retain possession of them. I hope there will be no such necessity; but if there is, I hope that the people will not shrink from the task."

The New York "Sun" tersely presents the bolder opinion on the subject as follows:

"Common humanity forbids the restoration to the Spaniards of any colonial possessions which may be taken from them in the course of the war. We may take it for granted that only a few incurable mugwumps will be found to favor such a restoration. Spanish, then, such possessions are not to be. Given away to other nations they cannot be, even if this country were foolish enough to wish to bestow upon others commercial advantages which might be rightfully enjoyed by itself. International potholes, jealousies, frictions and wars would arise from such an arrangement. That would be flinging a bone to the hungry dogs of Europe. Joint control would be open to the same objections. Guaranteeing a government by natives would be a clumsy and perilous process, continually subjecting us to responsibilities made for us by others, and giving us trouble and expense without profit. We don't know of any better government than that of the United States. Populations released from the grip of Spain and brought under that government will be benefited thereby, and the United States will be benefited by a great addition to their resources, actual and potential."

A statesman says: "But why is the experiment of an extended republic to be rejected, merely because it may comprise what is new? Is it not the glory of the people of America that, whilst they have paid a decent regard to the opinions of former times, and other nations, they have not suffered a blind veneration for antiquity, for custom or for names, to overrule the suggestions of their own good sense, the knowledge of their own situation, and the lessons of their own experience? To this manly spirit posterity will be indebted for the possession, and the world for the example, of the numerous innovations displayed on the American theater in favor of private rights and public happiness.

"Had no important step been taken by the leaders of the revolution for which a precedent could not be discovered, no government established of which an exact model did not present itself, the people of the United States might at this moment have been numbered

among the melancholy victims of misguided counsels, must at best have been laboring under the weight of some of those forms which have crushed the liberties of the rest of mankind. Happily for America, happily, we trust, for the whole human race, they pursued a new and more noble course. They accomplished a revolution which has no parallel in the annals of human society. They reared the fabrics of governments which have no model on the face of the globe."

It would be difficult to find anything more pertinent to our own times, but these words of wisdom were written by one of the American Fathers more than a century ago. The subject then under discussion was changing the Confederation to the Union. But if they had been written prophetically, James Madison's words could not apply more aptly to the present problem in government.

HENRY NORMAN, of the London "Chronicle," says that the vision of a new heaven and a new earth is still unfulfilled; but there is a new America—an America standing armed, alert and exigent in the arena of the world-struggle.

"The second American revolution has occurred," he says, "and its consequence may be as great as those of the first. . . . The change is threefold:

"First—The United States is about to take its place among the great armed powers of the world.

"Second—By the seizure and retention of territory not only not contiguous to the borders of the republic, but also remote from them, the United States becomes a colonizing nation and enters the field of international rivalries.

"Third—The growth of good-will and mutual understanding between Great Britain and the United States and the settlement of all pending disputes between Canada and America, now virtually assured, constitute a working union of the English-speaking people against the rest of the world for common ends, whether any formal agreement is reached or not.

"Viewed in the light of events it may conceivably bring forth, this trio of changes may be described without exaggeration as the event of the century.

"The new America will be armed to defend against any enemy the national policy she may decide to pursue. The next question, of course, is, What will her policy be? No more important question exists at the present moment. . . . The force of events, linked one to one by the great chain-maker, has continued to pull, and the policy of expansion has marched on with as little regard for American tradition or administrative convenience as John Brown's body had for the institutions of the South. . . . The American government has no policy in the matter. How could it have one? To begin with, the war itself is a sufficient issue for the present. It will be time enough to discuss the disposition of all these places when the United States is in possession of them. . . . With Admiral Dewey's victory sealed, and General Merritt installed as military governor, the United States becomes a nation with colonies, reaping all the responsibilities that colonies, like children, bring with them. . . . Will America retain the Philippines? It is rash, and possibly reckless, to answer such a question now; but so far as I can see, I think she will. Some of the grounds for this opinion may be easily given. First, what else can America do with them? Cede them to England, to Japan? Neither would take them at such a critical moment. Put them up to auction among the European powers, to secure a cash indemnity from Spain? Inconceivable. Hand them back to Spain? Public opinion would never tolerate it. Retain a coaling-station and cede the rest piecemeal among the powers? Such a course has been hinted at, but it would be a fatal course, the worst mistake possible, a policy fraught with every kind of peril. Allow the insurgents, under 'General' Aguinaldo, to set up a republican government under American protection? The idea is laughable to anybody who knows the Philippine native and has seen for himself how east is east and west is west. There seems for America no safe and sensible course except the old and simple one of keeping what she has taken."

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ABOUT RURAL AFFAIRS.

During Thunder-storms. One night a few weeks ago the barn of one of my neighbors was struck by lightning, and with all its contents, a herd of cows included, was reduced to a valueless pile of ashes and charred remains before even a neighbor could arrive on the spot. The man and his family had remained in bed, undressed, trying to sleep. The heavy clap of thunder, followed by the sudden glare of the blaze, made the man jump up and run to the barn; but he was bewildered and returned to the house to dress. Most of the cows might have been saved if some one had been ready to make quick moves. The insurance on the stock did not cover one fourth of the loss.

There is nothing rare or uncommon in the circumstance of house or barn being struck by lightning. The only strange thing about it is that it usually finds the people unprepared, and there is no need of that. I myself, from childhood up, was taught to be ready for emergencies. At the near approach of a thunder-storm, if during the night, my prudent father invariably alarmed the whole household. Every member of the family, from the oldest to the youngest, male and female, had to get up, dress, and wait for the storm to pass over. I well remember with what interest we, especially the younger members of the family, always guided and urged on by father, would stand or sit on the veranda or near a window and watch the brilliant display of electrical forces. We had no fear—it was like watching the display of fire-works on a Fourth of July, and therefore we rather liked to have good thunder-showers. But at the same time we were ready for prompt action in case anything should happen. It is a good thing at such times to be wide awake and have one's wits together. During the time it takes to get full control of one's mental faculties, when suddenly aroused out of a sound sleep by some unexpected occurrence, and to dress, much damage can be done by elementary forces, especially fire and water, that readiness and prompt action might prevent. I earnestly recommend the adoption of our plan of "being ready" during every thunder-storm to all my friends and neighbors.

The Home Mixing of Fertilizers.

I have had frequent inquiries on this subject again. It is sure that the farmer who buys his fertilizing ingredients (standard chemicals) in simple forms, unmixed, can get more value for his money than the buyer of ready mixtures. But in order to be able to use the standard chemicals to advantage one must be acquainted with their characteristic qualities and effects. Home study has to precede home mixing. One must have as clear an understanding of the terms "nitrogen," "ammonia," "potash," "phosphoric acid," "sulphate," "nitrate," and of very many others, as of any other words which one uses in daily life. Without such a knowledge and understanding it would be utterly senseless to undertake compounding one's own fertilizers. One might as well try to compound one's own medicines without a full understanding of the nature of the various drugs. If the publishers will permit a trifle of ax-grinding here, I would say to all those who talk about home mixing in the way so often done by my inquirers that the first thing for them to do would be to procure copies of some of the popular treatises on agricultural chemistry, among them my "Practical Chemistry," and give them a thorough home study.

One of my friends (J. D. S., Fairview, Ohio), for instance, asks about mixing the following ingredients: "Coal-ashes, lime, pure bone and potash," and wants to know "how much of each to make a fertilizer good enough for wheat on an average good lime and sandstone land." When my friend gets a clearer insight into the character and composition of the substances named he will know that coal-ashes and lime (although frequently of marked indirect effect, the one chiefly in a mechanical way) have little if any direct value for feeding plants. I can see no possible reason why we should mix either in a fertilizer to be applied to "an average good sand and limestone soil." Moreover, we do not and should not mix lime with the superphosphate (acid phosphate, dissolved rock or bone) that presumably would be the most important ingredient in a fertilizer for the purpose wanted. The phosphoric acid in this ingredient has been cut loose from its combination with lime by the use of sulphuric acid, the latter combining with the lime and giving us as a result sulphate of lime. Why should we add more lime to give the free (or loosely bound) phosphoric acid a chance to revert to the old form of simple phosphate of lime? There is lime in the soil, lime in the fertilizer; no need to add still more lime to the latter. Coal-ashes can only be regarded as filling. If we have it on hand and want to get rid of it, we may apply it directly to any hard land, or even to any very sandy land, in almost any quantity, and perhaps thus improve the soil's texture quite materially.

A Wheat Fertilizer. "An average good sand and limestone" soil is presumably in fair mechanical condition, that is, easily pulverized; and if there is a fair amount of humus, and with it nitrogenous matter, resulting from the practice of plowing under clover-stubble from time to time, the only two things that one will need, in order to give a good crop of wheat, are superphosphate and potash. The cheapest forms in which we can purchase them are dissolved South Carolina rock and muriate of potash. The former costs from \$8 to \$12 a ton; the latter \$42.50 to \$45 a ton. I would apply about two hundred pounds of dissolved rock and one hundred pounds of muriate of potash to the acre, and expect good results. It is not necessary to mix the two ingredients together, either. Just apply each kind separately. It is easy enough to sow the muriate of potash in the same way as you would sow wheat by hand. The proper quantity you can soon learn to regulate after a little practice. I would prefer to apply the dusty superphosphate with a fertilizer-drill, but if I had none, or could not get the loan of one, I would not hesitate to apply even this by hand. To make the task all the more convenient (and less complicated), however, I would always dampen the phosphate, as well as all similar fertilizers, before applying. Spread it on a tight barn floor, sprinkle water over it, put on more phosphate, then more water, etc., and finally shovel and hoe the mass over until evenly dampened all through. The time for sowing wheat is

near at hand. If you must use fertilizers, use them so as to get the most benefit from your cash outlay.

T. GREINER.

SALIENT FARM NOTES.

Painting Farm Buildings. The sight of a farmer hard at work painting his barn a few days ago reminded me that nothing improves the appearance of farm buildings more than a coat of paint. Any man can apply it if he will. He may not be able to work quite so rapidly or artistically as a professional painter, but if he gets the paint mixed to the proper consistency, which any seller of paints will show him how to do, he will have no difficulty in doing very good work. All the tools needed are one flat brush about three and one half inches in width, one round or sash brush, and a ladder. One of the best farmers I know paints every building on the place once in five years, doing the work himself or having it done by the hired man under his supervision. The wood is not only preserved from decay, but the buildings look fifty per cent better in every way than if left unpainted or painted when new and then allowed to become unsightly from lack of another coat. Paint is cheaper than lumber.

Intelligent Hustling. Right here at hand are wheat, oats and hay harvest. If the farmer ever needs to hustle intelligently it is now. One of the most successful farmers I ever knew, a man who made two fortunes by farming, and who lived to the ripe old age of seventy-nine, once said to me: "The reason I get through my harvests so easily and smoothly is because I am ready for them when they are ready for me. I never worry myself, my family nor my men, but we make every step and stroke count. We have good meals, and take lots of time to eat them, and we retire early and sleep soundly. When we begin in the morning all hands expect to keep steadily at it until 11:30. We begin again at 1:30, and there is no stop until 6:00. A great many people have been astonished at the amount of work we accomplish and the general good humor of the whole crew. There is nothing to be astonished at; every man knows his place and what is expected of him, and he never fails to do his full share. No man is ever allowed to impose on another or 'pick' at him if something happens to go wrong. No time or force is wasted in piddling, telling stories or yelling. Everything moves as steadily and quietly as a clock."

Early Cut Hay. Many farmers fill their barns with hay that is little if any better than straw, because they allow it to get too ripe before cutting. The best haymakers now cut timothy when the seed is in the "dough" stage, and clover as soon as it is fairly in bloom. Both timothy and clover make a far better quality of hay when cut early than when the seed is ripe in the former and half the heads are brown in the latter. If timothy hay is desired simply for "roughness," it is well enough to allow it to stand until the seed is ripe, or nearly so; but if it is wanted for food it should be cut early. Clover will cure quite as quickly if cut when in full bloom as when half the heads are brown, and the second or seed crop will be stronger and more abundant.

Low-down Wagons. I notice that farmers who annually make a great deal of hay are using the wide-tired wagon largely. Where the hay is stored in large sheds in the fields it is drawn in with sweeps or ropes and hoisted into the sheds with horse-power hay-forks; but where it must be hauled over one fourth of a mile the low-down wagon has proved to be a most excellent labor-saving invention, as it lessens the labor of pitching on a load just about half.

These low-down, wide-tired wagons are one of the best implements one can have on the farm. For drawing in hay, straw or corn-fodder, or hauling out manure, they are vastly superior to the old narrow-tired, high-wheeled wagon. It is an easy matter to get the load both on and off, while the wide wheels will roll easier over a sod than narrow tires would cut down into several inches. The advocates of good roads have used all sorts of arguments to induce far-

mers to adopt wide-tired wagons for drawing heavy loads on the highways, but the practical use of one of these handy contrivances on the farm for a short time will have more force than all the arguments that can be presented.

Cultivate Corn at Harvest-time. Owing to the continued wet weather over a large area of the corn-growing states, harvest will find thousands of farmers with most of their corn very much in need of cultivation. It will pay all such well to keep a cultivator going steadily, for at this time corn grows rapidly and soon becomes too tall for the bows of the cultivator to pass over it. It is at this time, too, that the crop is really made. A mulch of loose soil left on the surface just as the corn-plants pass beyond cultivation and shade the ground is a grand thing for the crop—really adds several bushels to the yield of an acre. Keep a cultivator going, if possible. Run it about three inches deep, and a team can draw it along at a lively walk all day.

Soiling-crop. This month we will begin to cut the soiling-crop of corn for the cattle to help out the pastures. When we begin to cut it is a good idea to open a shallow furrow between the rows and drill in another row of corn. As the first crop is removed the second will take its place, and if the soil is rich, will make lots of good feed before frost comes. Some sow turnips between the rows, but a second planting of corn will yield two or three times as much feed and of a better quality. One good farmer who lives in a dairy section of this state always plants sweet corn, a medium early variety, for a second crop. He says that it makes a better quality of feed than dent corn, is sweeter, more nutritious and comes nearer to maturing before frost. It is wonderful what an immense quantity of feed can be produced on half an acre of rich land if one keeps it fully occupied the season through. I have seen men who have farmed for thirty or forty years fairly amazed at the quantity of feed-stuff produced on half an acre of well-fed, thoroughly tilled and fully cropped land.

FRED GRUNDY.

COUNTRY HOME NOTES.

I should like to recommend to flower-lovers more attention to the syringas and mock-oranges. The number of the latter may be increased almost without number. My earliest comes into blossom about May 20th. A succession of varieties follows until July 1st. These remain in flower for a week longer, so that I have these delicious flowers in bloom through nearly two months. If you will take the trouble to dig up seedlings and transfer them to your garden, you will find your varieties multiplying very rapidly.

I have had more difficulty with plant-lice during the spring of 1898 than with all other pests. It is impossible to kill them with any of the mixtures which we usually apply to destroy animal life. But I find that the use of kerosene emulsion, taking about one pint to a pailful of water and adding a strong solution of whale-oil soap, will put an end to lice, if sprayed upon them so as to be sure to hit them. As they invariably breed on the under sides of the leaves, the spray must not be thrown up and be allowed to come down in showers, as I deal with pests, but must be sharply driven underneath. As a rule, these creatures will leave us about the middle of June; but by that time they have done incalculable damage. They should be attacked as soon as they appear.

Talking with a farmer yesterday who complained that it was no longer possible to live by farming, I suggested to him that it might be possible, provided farming were worked on the old-time principle of raising everything for the family, and only selling the surplus, rather than planning and working for market, and eating the surplus. His answer was, "I believe you are right. We must learn once more to make the farmer's home independent of so many shops and factories. We must learn once more to make and tap our own shoes, to make our own soap, and perhaps a good many other things which we can as well as not. But at any rate, we must learn to raise our own food and provide a good part of our own clothing." I believe this to be the true road out of the present difficulty with our rural homes. The land if properly tilled will enable us to live independent lives, or nearly so.

E. P. POWELL.

Our Farm.

FARM THEORY AND PRACTICE.

SOUTHERN FIELD-PEAS.—There is renewed interest in the southern cow-pea as a manurial plant for some sections of the North. Its merits have been discussed in the columns of *FARM AND FIRESIDE*, and attention has been called to the fact that this pea is not a rival of clover, but is used only as a supplementary manurial crop crowded in between other crops when clover fails or there is not time to grow the clover. It is really a tender bean, making a rapid growth in hot weather, and furnishing a mass of vine and roots for loosening and enriching the soil. In my opinion too much is now being said in its favor for our northern latitudes, and some farmers may suffer disappointment. North of the Ohio river this pea needs a naturally warm soil, and should be sown before the middle of June for best results. With early seeding it barely matures before frost, and reasonable maturity is needed for the best results. The crop may be plowed under in time for wheat, but much of the manurial value is lost by stopping the growth at this stage. This pea gathers nitrogen from the air and takes the place of clover in portions of the South. It is also used as a forage-plant and makes a nutritious hay, but the curing is difficult. In the North we have better plants for producing feed, and it is used only as a catch-crop for cleaning, fertilizing and loosening a soil. Correspondents continue to ask whether the peas cannot be sown on stubble-land after harvest, and I wish to discourage such an experiment. In a moist summer I have gotten fair growth in this way, but the nitrogen was largely lost by action of frost. In an ordinary season there is insufficient growth to justify the outlay. It is my experience that this plant will not thrive when sown in corn at the last working, although in the hot South this is a common method. It is valuable for thin or weedy strips of land that need an extra catch-crop for fertilizing purposes, but must have the full heat of summer for its development. It makes a good growth on land that fails to make a profitable stand of clover.

EARLY POTATOES.—Observation is a good teacher. When digging early potatoes for market or the table before they are matured the reader has doubtless learned to select the hills that have a single stalk in each for the first digging, the largest tubers being found in such hills. The single stalk has the best chance for development, and the hill has few sets in it. This should teach us to use very large potatoes for seed in an early patch, so that a single eye may be left upon the seed-piece, or else to thin the plants as soon as they come up. Thinning is practicable, and as large seed-pieces are safest in very early planting, unless the land is very light and well drained, some prefer to use more seed and then thin to single plants in hills twelve or fifteen inches apart. Several plants in a hill produce a large number of sets, and none are ready for market until comparatively late in the season.

Heat and drought are the foes of the potato-grower. Where one has a small patch only, and desires a big yield, it is practicable to ward off the ill effects of drought and of heat to a certain extent, by mulching the ground around the plants before the tops fill the middles. Partially rotted straw is good for this purpose, and if it has had some manure mixed with it, so much the better. It should be strung along the middles and worked under the vines as much as possible. In level culture, which is best for potatoes on drained land, the surface of the row is a little higher than the middle, and the straw is easily worked between the hills with the foot or a fork. A two-inch mulch of this kind holds the moisture in the ground and increases the yield wonderfully in a dry season. In field culture we must depend upon cultivation solely, but in the garden this plan has given me most satisfactory results.

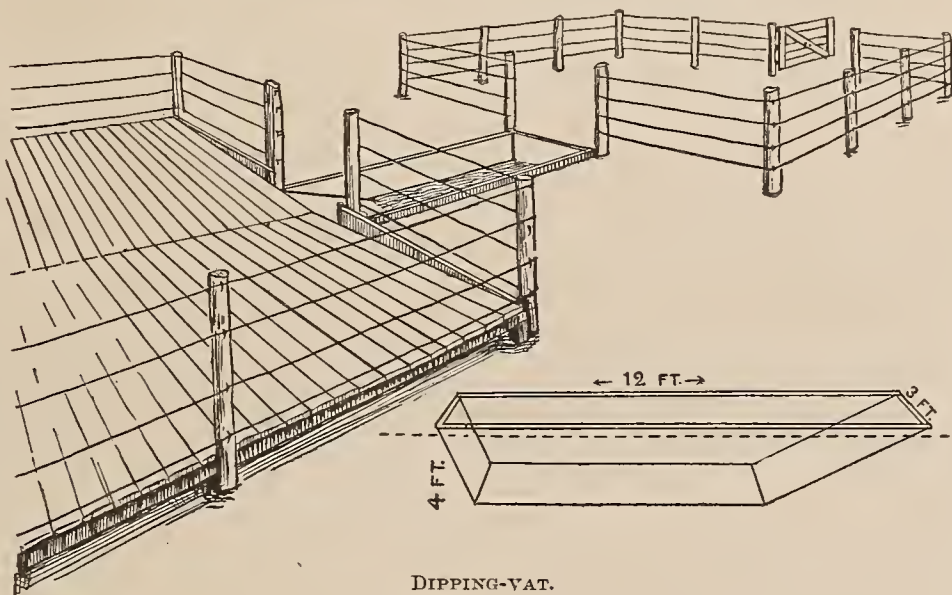
LIMING OUR WHEAT-FIELDS.—The Year-book of the National Department of Agriculture for 1897 is a valuable publication, and should be in the hands of all *FARM AND FIRESIDE* readers. Concerning clover failures it says: "Red clover will not grow in soils containing an excess of organic

acids. It is believed that clover sickness, which prevents the growth of clover upon the same field for an indefinite period, is due to the formation of an excess of humic acids which interfere with the growth and development of the nitrifying soil bacteria." We know that it is more difficult to get a heavy crop of clover from old land that has had many seedings of clover than from newer land which has not been under a clover rotation, and this may be due to the presence of harmful acids. When this is the case the author quoted recommends an application of lime to neutralize the acid. We know that, in the experience of many farmers, an application brings the clover either by neutralizing acids or by releasing plant-food needed by the clover. Many farmers are discouraged about their failures to get clover on certain fields, and in the light of others' experience they should plan to experiment with lime this fall when seeding to wheat, in which clover is to be seeded in the spring. Farmers outside of limestone districts should arrange to get agricultural lime by the car-load, if freight rates are not too high, distributing the load among themselves, for a number of experiments. In this way the expense would not be heavy upon any one person. The burned lime should be ground by the burner, so that it can be applied with a fertilizer-drill without slaking. Experiments prove that ten or twelve bushels of such lime to the acre is sufficient on some of the eastern soils to secure good

Sometimes there will be only a few eggs laid, and at others hundreds, several females having chosen the same plant upon which to lay. The eggs hatch in from four to ten days, according to the weather, and the young maggots make their way to the tender rootlets. When these are destroyed the creatures burrow more or less deeply into the main root, often girdling it, but seldom entering the central woody part. In about three weeks the maggots change to the resting, or pupa, form, sometimes in the root, but usually in little burrows an inch or so from it. The flies usually emerge from the pupa in from eight days to three weeks, although sometimes months elapse. They then pair, lay eggs and die, having done no damage during their fly stage. Two, three and even four broods are said to be produced in a season, but owing to the uncertain duration of the pupa state the broods, especially the later ones, probably overlap more or less. While the destruction of the spring brood is most important, yet attention to plants set late in the season will be well repaid.

The three principal enemies of this pest, a wasp-like insect, a tiny beetle and a mite (closely allied to the well-known greenhouse pest, the red spider), have as yet not attained sufficient force of numbers to hold the maggots in check, and it is therefore necessary for gardeners to fight the pests and assist their foes.

Where the plants upon which this pest feed are grown in only small quantities, or



stands of clover or grass, and repays the cost in the increased yield of wheat. Doubtless an equal amount would affect much of our western soil similarly. This matter deserves the careful consideration of those who are failing to get good growths of clover. A ton of lime applied evenly with a drill upon a strip of land through the wheat-field this fall may point out the remedy for many clover failures. At any rate it is an experiment worthy of trial because of others' success along this line.

DAVID.

THE CABBAGE-ROOT MAGGOT.

One of the most serious pests that the trucker has to fight is the cabbage-root maggot. Since the early years of this century this pest, which is probably of European origin, has spread over almost the

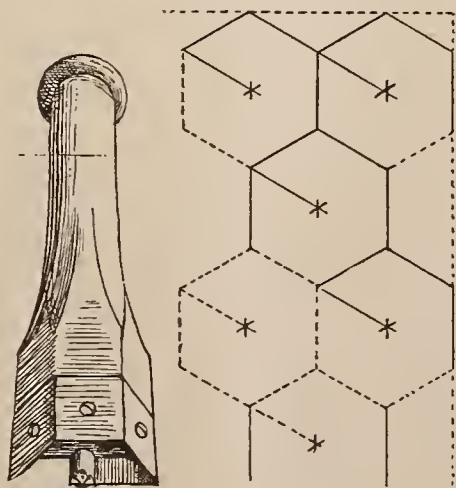


FIG. 1.

FIG. 2.

whole of this country and Canada, annually destroying thousands of acres of cabbage and other allied crops. Scores of remedies have been tried for this enemy, very few of which are of any use at all.

The cabbage-root maggot is the larva of a small fly that deposits its eggs on or in the ground close to the stems of cabbages, and other plants, such as radishes, turnips, stocks, etc., belonging to the same family.

are still in cold-frames and seed-beds, they may be protected by coverings of tarlatan, cheese-cloth or fine netting. But in the field this method is impracticable.

Carbon bisulphid forced into the ground a short distance from the root has been found effective. When applied with an ejector at the rate of a teaspoonful to a plant the cost for the liquid is about ten cents a hundred plants. This remedy is efficient and practicable with cauliflower, kale, cabbage, etc., but for radishes, turnips and the like it will be found too costly. For these crops an emulsion made as follows will be found cheaper and consequently better: Dissolve one quart of soft soap or one pound of hard soap in a gallon of boiling water; add one pint of crude carbolic acid, and stir thoroughly until well mixed. This emulsion will keep for several weeks without deterioration. Before applying dilute with thirty or more parts of water, using some warm water at first if the emulsion is cold and thick. This emulsion should be applied close to the roots with a nozzle once each week or ten days after the plants appear until they are three or four weeks old. If applied with some force it is probable that many of the eggs would be destroyed by mere contact, since they are easily injured if disturbed.

The best preventive remedy for cabbage, kale and similar large plants is tar-paper cards fitting closely around the stem. These may be cut from one-ply tar-paper with the punch shown in Fig. 1. The cutting edges of this tool, each of which is one and one half inches long, are arranged in the shape of half a regular hexagon with one radius, which is met at the center by six other cutting edges, each one third of an inch long. These central cutters are upon a separate piece of steel, so as to be easily removed when sharpening of the blades is necessary. The little cuts allow the cards, when applied to the stem, to fit more closely around it. Fig. 2 shows a card just struck off, and the dotted lines show where the tool is to be placed for other cards.

By having the roll of paper on a horizon-

tal spindle (a broom-handle will do), so that the paper may be readily unrolled and drawn across the cutting-block below, the cards may be struck off at the rate of about five hundred an hour.

When applied to the stem the card must be made to fit snugly, so that the female fly cannot crawl under it to lay her eggs on the ground. They must also be high enough up from the ground to prevent earth being accidentally thrown upon them, else the maggots may work their way into the stems as easily as if they were under ground and no cards were used. This difficulty should not arise if the ground around the stem is smooth, a thing that can be properly managed at the time of setting. This method of protection, which, if properly applied, is absolute, costs the large growers of Wisconsin, among whom the practice is common, about one dollar a thousand plants.

M. G. KAINS.

THE WESTERN SHEEP.

A general revival of the sheep business began last year, and the effect extended throughout the entire West. The figures show handsome profits almost everywhere, ranging from twenty to forty per cent on the investment, with better anticipations from this year and next season. Under present prices the wool pays all the running expenses, and the annual increase is left for dividends. A band of 2,000 good range-sheep costs about \$4,000, with camp outfit, consisting of wagons, tents, bedding and cooking utensils. The expense of running such a herd on the public range of mountain, valley and plain reaches an average of one dollar a head yearly. This includes herders, provisions, dipping, shearing and all incidental expenses, with loss from cold, hunger and old age in ordinary seasons. Some careful shepherds cut down the cost to probably eighty or ninety cents a head by selecting a clean range and keeping the flock free from scab and other diseases, caused chiefly by overcrowding on old, much-used pastures. Where the expenses are cut by good care the yield of wool and mutton increases and the profits are more than doubled.

Sheep require constant watching, to prevent scattering and consequent losses, and frequent change of pasture to ward off disease. Herders are kept on the ground at all times, well supplied with dogs for helpers and guns for protection against attacks from wild animals. They need dipping about twice a year to kill the scab and similar skin diseases. For this purpose a vat is filled to the depth of three feet or more with a solution of sulphur of tobacco or some of the ready-mixed dips of commerce, and the sheep are forced in through chutes and plunged under the hot liquid. Men stand on either side of the vat (usually a box three feet wide, twelve feet long and four feet high), and with forked poles duck the sheep under two or three times as they pass through and land in a drying-pen at the opposite end from the entrance. The bottom of the pen is made watertight and gently sloping, so that the liquid drops from the wool and runs back into the vat. Some shepherds use prepared dips, while others think their own preparations are the best; but the value of dipping depends much upon the herding-grounds and food being sufficient to keep the animals in good condition.

The increase from a band of 2,000 selected sheep will average one-third, or nearly 700 head, annually. Bucks are herded separately and put into the ewe herds from the first to the fifteenth of December, and during lambing-time extra men are engaged to look after the lambs and mothers and guard the flock against coyotes, bears and mountain lions, always troublesome in early spring when the sheep are put on new ranges. Losses are governed by many circumstances of feed, water, climate and disease, but the average in most sections is less than five per cent yearly, except possibly when an unusually severe winter kills many of the old ewes. In my own experience and observation of many years intimate connection with the sheep business I can safely predict that few men established in sheep husbandry throughout the West will realize less than twenty per cent profit, and many will double that when wool sells at fifteen cents a pound, as shorn from the sheep, and the present demand for mutton is not curtailed. Local conditions or mismanagement may alter these figures slightly, but the exceptions are certainly very few.

JOEL SHOMAKER.

Our Farm.

NOTES FROM GARDEN AND FIELD.

FIGHTING GARDEN PESTS.—The following is a paragraph which I found in one of the last issues of the New York "Farmer": "It is our practice to visit the garden early every morning, and when we find a plant destroyed, dig about the plant until we catch the worm. When this is destroyed we set another plant in the place of the one eaten. So far we have caught from six to ten worms each morning, and perhaps we may get the best of them in the end." To visit the garden every morning—that is the keynote to success in gardening. It proves that there is an interest in it, and a disposition to keep things in order. If we think all we have to do is to prepare the soil, sow a few seeds, and then let things take their course, we often find, when we come to some patch of vegetables or small fruits, that things are in a bad way. Disease may have taken hold of the plants, or insects may have nearly destroyed them, or they may be lost in weeds. The daily walk all over the garden reveals the very beginning of these troubles, and shows us the need of action at a time when such action can save the plants.

The cutworm works during the night. Its work can usually be detected most easily in the early morning, and in order to clear a patch of this enemy where at all plentifully present I know of no better plan than this early morning visit to the garden, with eyes wide open and eagerness to catch the culprit wherever a plant has been freshly cut down. In our older patches the damage done by cutworms is very insignificant. Continued cultivation soon clears the land of the pest, and I have not suffered material loss from its attacks in the garden for years. An occasional plant, especially near the outside of the patch, along the grass plot, fence-rows or the perennials, may be taken, and when that happens the morning visit reveals the presence of the enemy, gives us a chance to hunt it up and destroy it, and then to replace the destroyed plant by another, thus keeping our plantings intact and without vacancies.

THE CUCUMBER-BEETLE.—Another enemy—one which does not usually come like a thief in the night, but prefers to make its appearance during the heat of the day, most frequently when the sun comes out bright and warm after a rainy spell—is the yellow-striped cucumber-beetle. During the time that I fear its coming—in June—I usually make an extra daily visit to the cucumber, melon and squash patches somewhat later in the day, say at nine or ten o'clock in the morning, or after dinner. I want to know what is going on. If I stay away for a few days I am pretty sure, on making the first visit again, to find trouble here or there. Cucumber and squash plants that looked nice and promising a few days ago may be all eaten up and past saving. Don't neglect the daily inspection until the plants are out of danger. I still depend on my old remedy—tobacco-dust—to keep the beetles off my vines. This year I obtained a new supply of this material, and I took pains to get the real dust, not the coarsely ground tobacco refuse that I had last year, and applications of which, even when made very freely, did not prevent the almost utter annihilation of my squash-vines the past season. Toads seem to be more than usually abundant in my cucumber and melon patches this year, while the beetles are scarcer than I have seen them for years. Whether this comparative exemption from beetles is the result of the toads' presence or not, I am unable to say. I am rather inclined to take this view, and for that reason I let my boys gather up the toads (with a shovel or trowel) whenever such are found in pits or cellars, where not wanted or needed, and set at liberty in the vine-patches.

The large black squash-bug is more easily disposed of than the yellow-striped fellow, if we will only take the pains to look after him pretty closely. It takes daily visits to the garden during the period of danger, of course. We should always provide a little bit of rubbish, such as pieces of chips, etc., near each squash hill, and then at our daily visits we can turn these

pieces over and find the stinking things hidden underneath. Fortunately they are slow and easily caught. They can be picked up with home-made wooden tongs and mashed, or may be thrown into a small pail containing some kerosene.

Then there is our old enemy, the potato-beetle. The potato-patches need frequent inspection. Sometimes we think the plants are almost free from the enemy, and when we leave them for a few days we will afterward find them badly infested with the slugs. The sprayer should be used promptly even before the eggs have hatched. This year I am using the knapsack-sprayer in preference to the barrow-sprayer. It takes a little more time, and the sprayer when filled with spraying mixture rests rather heavy on one's back; but while the plants are small, or only half grown, we can go over an acre patch in an hour or two, and do very thorough and effective work. I invariably use the Bordeaux mixture, with a pound of Paris green added to about fifty or sixty gallons of the mixture. I aim to keep the plants well covered all the time, and thus keep off blight and slugs at the same time. In spraying, I always "dwell with emphasis" on every plant which shows the presence of slugs, going over those free from them at a more rapid rate. Of course, I have got to look after the egg-plants, too. Potato-beetles are especially fond of them, and the blight also seems to be bound to victimize them in early life. My practice is to spray my egg-plants with the Bordeaux mixture and Paris green combination every few days. It is the only way I am able to save them.

This year I am having more than my share of trouble with currant-worms. They are bound to defoliate my magnificent Columbus gooseberries. The latter are loaded with fruit as never before—there are bushels and bushels of gooseberries on my two dozen old bushes—and you may imagine that on my daily visits to the garden I never miss the gooseberry-patch. Consequently I soon found what was up when the currant-worms appeared, and I used tobacco-dust freely and frequently, but, strange to say, not with the accustomed prompt result. This year's crop of currant-worms seems to be more hardy than I ever found them. The worms drop off when the dust is applied, and then they come on again. So I tried other things, especially kerosene emulsion, and this even as hot as I could apply it without burning my hands on the nozzle-rod. And yet after three or four thorough sprayings—all within forty-eight hours—I yet find plenty of worms on the plants (and still more dried skins). Perhaps I will be obliged to resort to spraying with hellebore. But if I have to work for it, I am bound to kill the worms.

My friends should not imagine, however, that it is only this necessity of keeping close watch of the various crops in the garden which prompts me to make these daily—and even repeated daily—visits to the garden. To tell the truth, I am so interested in the splendid and vigorous growth that all things in the garden seem to make this year under the stimulus of good treatment and a sufficiency of rain that I cannot keep away. The first thing I want to do in the morning is to see how the plants look, so fresh and sparkling in the morning dew, that I simply cannot help bidding them all "good-morning." And then later in the day I like to go and see how they stand the heat, and whether the newly set plants are holding out well, etc. In short, when you have a good garden and all kinds of nice crops, you will naturally feel proud of them, and want to feast your eyes on the sight. That is my case—and it results in a good garden and the best of care of all garden crops.

T. GREINER.

ORCHARD AND SMALL FRUITS.

CONDUCTED BY SAMUEL B. GREEN.

KEROSENE EMULSION.

The value of kerosene emulsion is so great that no one who undertakes to cultivate trees ought to be for a moment without it. It is the insect-destroyer, par excellence. It is a perfect remedy for all slugs and lice and scale-bugs. It can be applied, however, so strong as to destroy

not only the bugs but vegetation. The hop-louse has been so voracious this spring on my buckthorn hedge that I have been unable to conquer it with ordinary applications. As a consequence I have used emulsion too strong and injured the hedge. Use it more particularly as a wash for all your trees that are inclined to scab or to indulge the presence of scale-bugs. Scabby trees should be washed at least once a month. Some varieties which are particularly susceptible I find it necessary to wash year after year; but in most cases attention to cultivation of the tree and a few washings for a single year will establish cleanliness and health. A recipe for kerosene emulsion is: Take one quart of soft soap, with two ounces of hard soap, and after dissolving in a gallon of hot water, add one pint of kerosene. Or you may use hard soap altogether. For some purposes it is well to add a few ounces of whale-oil soap. The mixture must be churned by the use of a force-pump until it has become a thorough admixture of a cream-like texture. This material can be set away for use at any time. It will keep in good order for orchard use for several weeks. When you wish to use it, take about half a pint to a pailful of water. For a few purposes I sometimes use more. For rose-bushes I use less—two or three tablespoonfuls to a pailful being enough. For application to roses I stir in a portion of hellebore. The application should be made in a fine spray through a McGowan nozzle, and care must be taken to reach the under side of the leaves.

E. P. POWELL.

GRAFTING PECANS.

It is a mistaken idea that pecans will not grow and thrive on high land. It is of the same class and nature as the hickory, and will thrive on any soil that the hickory will grow on. The pecan may be successfully grafted on the hickory by sawing the hickory stock one to six or more inches in diameter, after the sap has started, so as to allow the bark to be readily separated from the wood. Cut grafts while dormant, and keep dormant until ready for use. Shape the graft about one and one half inches in all on one side, and take off the bark on opposite side just so as to touch the wood, and insert in the stock by pressing it with the shaped side against the wood and between the wood and bark. Have the grafts about six or eight inches long, and mound up to top of graft with fine earth well packed on.

W. C. FREEMAN.

INQUIRIES ANSWERED.

Pruning Currant and Gooseberry Bushes.—P. M., North Benton, Ohio. If gooseberry and currant bushes are to be pruned in the summer, the work should be done soon after the crop is gathered. But I do not believe in much summer pruning for these plants, and in my own practice do not do it at all, but do the pruning in the mild days in the latter part of winter or in very early spring.

Cherry-tree Louse.—W. C. Your cherry-trees are probably affected with the common cherry-tree louse. Perhaps the best general remedy is strong tobacco-water or whale-oil soap and water. For my own use I have made a small frame (a sort of enlarged carpenter's horse) for small trees thus infested, over which I put a cotton sheet, thus making a tent. Inside this tent I burn dampened tobacco-stems, enough to fill the tent with smoke, and I find this the most perfect remedy.

Rose-slug.—E. B., Samaria, Mich., writes: "I have a rose-bush which was set out a little over a year ago. Last year it grew nicely and blossomed late in the fall. It now has eight buds on it, some of which will soon be in full bloom. The leaves of the bush are turning white. Some of the leaves are covered with white spots, and it looks as if the bush was going to die. If you can give me any advice as to what should be done I will be greatly obliged."

REPLY:—Judging from your description I think your rose-bushes are infested with the rose-slug, which eats off the surface of the leaves. I would suggest that you spray the leaves with white hellebore dissolved in water at the rate of one ounce to the gallon. See also reply to L. G., Theresa, N. Y.

Gooseberry-mildew.—J. T., Wisconsin. The mildew on gooseberries is very much simpler to manage than that of the grape. The best preventive is to use potassium sulphid (diver of sulphur) at the rate of one half of an ounce to a gallon of water. The bushes should be sprayed early and at frequent intervals until the fruit begins to ripen. This is a colorless solution and is very inexpensive. The material can be obtained at any of the wholesale drug-stores. But if

many of your gooseberries are as badly diseased as those I received, I should hardly think it would pay to treat them, as they would be so badly discolored as to be unsalable. And yet, since this mildew attacks the foliage as well as the fruit, its use will undoubtedly conduce to a good crop of wood this year and consequently bring about conditions for a better crop of fruit next year.

Killing Lice on Rose-bushes—Rose-mildew.—L. G., Theresa, N. Y. Probably the simplest way for you to keep the lice off your roses is by making a strong tobacco-tea by pouring boiling water on raw tobacco, and then dip the ends of the rose-bushes in it. Whale-oil soap and water will answer the same purpose, and a very strong soap-suds made from ordinary hard or soft soap will also do very well. Tobacco-smoke has the same effect, and by setting a dish containing tobacco that is burning under a bush covered with a sheet the lice will be killed in short order. But care must be taken that the ignited tobacco does not flame up, or the leaves will be scorched, and to prevent this the tobacco should be slightly dampened.—The mildew of roses is sometimes very troublesome. Some varieties are very liable to this disease, while others are quite exempt. In locations where the plants are partially shaded or do not have a free circulation of air, this disease is most annoying, and the utmost care is required to grow them in such unfavorable places. The remedies for mildew consist in sprinkling the foliage with fine sulphur or a solution of one ounce of liver of sulphur (potassium sulphid) to one gallon of water, the latter being the most satisfactory remedy.

Apple-tree Borers.—C. W. D., Hickman Mill, Mo. At least two borers infest apple-trees; one is known as the round-headed borer and the other as the flat-headed borer. In the mature state, the round-headed borer is a beetle about three fourths of an inch long, having two creamy-white stripes upon its wing-covers. It flies at night, laying its eggs upon the trunk in crevices of the bark near ground in June and July. The flat-headed apple-borer, in its mature state, is a much smaller beetle than the last, of a shining greenish-black color, and about three eighths of an inch long. They are very active in the middle of warm days, and may be found on the sunny side of the tree, whence they fly quickly if an attempt is made to catch them. They appear early in summer, coming out from the borings, and lay their eggs, which are yellow, under the loose bark-scales or in crevices in the bark. The most satisfactory remedy is to remove the borers with a sharp-pointed knife, going over the trees once in August and again a month later. Perhaps the best preventive is painting the trunks with soft soap to which has been added a little crude petroleum, coal-tar or carbolic acid at the rate of one teaspoonful to the gallon.

Orchard-planting, Location, Varieties and Young Trees.—C. D. R., Pittsburg, Pa., writes: "I own a small farm along the Susquehanna river in the east central part of Pennsylvania. The farm lies in a narrow valley which runs almost due east and west. I contemplate planting an apple orchard next spring, and would like some advice in this line. First, as to location; I have the choice of two plots—one on the north slope, or 'winter side,' which is most all on the hillside, though the hill is not too steep for general farming purposes, and the soil is a gravelly loam; the other plot is on the 'sun side,' or southern slope, is almost level, and the soil is a clay, though not heavy. Which plot is preferable for an orchard? I will plant the orchard for market purposes. Please make me a list of varieties and the number of each that you think would make a choice and profitable orchard of two hundred trees? Nurserymen list their trees as extra large, large, medium and small. In buying trees, what size is best to select? Can you send me the name of the publishers of the 'Strawberry Cultivist'?"

REPLY:—Would on general principles prefer rather elevated north slope for apples, but if the soil is gravelly and liable to dry out, it is probably best to plant on the clay soil with a southern aspect. For varieties I think Rhode Island Greening, Baldwin and Rambo probably the best, but would suggest that you advise with your state experiment station, at State College, Centre county, Pa. Would prefer medium-sized, thrifty trees, such as extra large two-year-olds. The "Strawberry Cultivist" is published by the Orange Judd Co., New York City. Price, twenty-five cents.

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Our Farm.

HINTS FOR THOUGHTFUL FARMERS.

ORNAMENTAL GRASSES.—For easy ornamentation of our simple country homes nothing is finer than the *Eulalia japonica*. This is a grass, growing about ten feet high, and crowned with superb plumes. One variety has white cross-lines on the leaves, and the other has lines of white running lengthwise of the leaves. Both of them are entirely hardy, and will make a superb display whenever they get a fair rooting, even though they are planted in the grass. The plumes are cut and dried for winter decoration. Easily grown with this grass, or near it, may be planted the *Erianthus ravennae*. This is another grass with longer and somewhat stiffer plumes. It is entirely hardy.

DESIRABLE SHADE-TREES.—I should like to recommend for farmers' homes where a variety of trees is desired, with some novelty, the planting of the golden poplar. This is, all in all, the best yellow-foliaged tree that we have. Its golden hue is brighter in midsummer than in spring. With this I would also plant the Norway maple, the best shade-tree in existence. It grows considerably faster than the sugar-maple or any of the soft maples. It is distinguished by the juice, which is milky. It will not make sugar. The leaves are very large, and the color in autumn is a deep canary yellow—very beautiful. The Kentucky coffee-tree is another unique native tree which deserves general planting, for the sweetness of its flowers, as well as for the peculiarities of its growth and its rich foliage. Where a low-growing lawn-tree is desired the English elm may easily displace our native elm. The tendency is to take up less space and branch out closer to the ground. It is absolutely hardy in our climate. The *Magnolia acuminata* can also be recommended, where only one tree is desired with large, free, abundant foliage.

I wish farmers might make a point of bringing back the beech more freely into plantations about the house. It is the favorite in English lawns, and ought to be a favorite in ours. Our American variety is one of the finest trees in all our sylva. It likes to grow low-branching near the ground, and for this reason makes a good tree to stand alone. And yet a beech-grove is one of the most perfect that can be grown. We must add to the other charms of the tree the fact that it gives a nut so highly valued by the children. It is now said, by those who advocate a larger use of nuts in our diet, that the beech-nut is peculiarly valuable. The European beech is a beautiful tree, inclined to grow taller than our own. Besides these we have the purple-leaved, which is a most elegant small tree, and perhaps the finest of all that have colored foliage. The only absolutely hardy purple beech is the *River's*. This variety stands the severest cold without the least damage. The fern-leaved beech is an elegant affair, and so is the cut-leaved beech. Those who are fond of weeping-trees will find the weeping-beech one of the best.

CUTTING BACK YOUNG TREES.—Those who are planting trees obtained from agents or nurserymen should remember that these trees, in all cases, should be very sharply cut back. As a rule remove all limbs, or at least leave but two or three stubs at the top. While cutting these, leave the last bud pointing outward, in the direction that you wish the limb to take when grown. As the tree begins to start its buds, be careful to rub out all that start on the body of the tree, allowing it to put its full force into those buds you have specially reserved. A tree planted with a lot of bruised and broken limbs will waste its growth for the first year, if it survives at all. I know of orchards which have been planted for five or six years, and having had no attention or direction as to growth, might as well be cut up now and burned. Use a sharp knife, cut smoothly and cut freely.

CHERRY-TREES.—I should like to encourage a freer planting of cherry-trees. No fruit is of more general value in the family, and none meets with a more ready sale. A

list of good sour cherries for home use would include the Dyehouse, earliest of all to ripen; the Early Richmond, a capital cherry to grow on dwarf; the English Morello, the large Montmorency, and the Olivet. This last is the largest and finest of all the sour cherries. I presume all of them will do about equally well grown as dwarfs. No one can have too many cherries for food.

STRAWBERRIES.—In the strawberry-beds for 1898 I find no berry producing as heavy a crop as Clyde. The quality of the fruit is good, and the size of the berry averages very large. The plant is one of the best root-makers and stool-makers that I have ever seen. It has amazed and disappointed me, for I was prejudiced against it. The color of the berry, which has been said to be too light, is quite dark enough for a market fruit. Bismarck does not come up to expectations in the quantity of its product. The size is good and the color most beautiful. I shall continue to plant it, but shall rank it after Clyde. I am not yet quite satisfied whether Wm. Belt can be said to be an exact mate for Clyde or not. It does not produce quite as many berries, but they are of better quality and extremely large. The Margaret has not been overpraised, provided the plant is given first-rate soil and first-rate treatment. The berry is very large, a dark glossy red, and the flavor is of the best. Mary, with good culture, is one of the most beautiful and satisfactory of all the berries, but it is sour. I shall not plant it any longer. The old Cumberland Triumph is one of the stand-bys that still does as well as ever, giving most beautiful berries with half a chance, and I shall not spare it. Nick Ohmer and Michigan I am trying for the first time, and believe them to be great acquisitions. Isabella, or No Name, produces a good crop of fruit, very dark and of fine size, but it is decidedly too acid. I have selected for my autumn planting, Nick Ohmer, Ivanhoe, Wm. Belt, Clyde, Marshall, Michigan, Brandywine, Enormous, Margaret, Glen Mary, Ideal and Howells. Howells and Rio are already in my grounds, and judging from their growth are acquisitions. Brandywine I should be willing to take as one of the most satisfactory berries for a home garden. Take Clyde for early and Brandywine for late. For quality take Wm. Belt, Margaret and Marshall.

RHUBARB.—The Chicago doctors are leading in a fad which has at the bottom of it a good deal of truth and good reason. They are urging the use of rhubarb (or pie-plant) as a sauce, or otherwise cooked, at least once every day. There is no question but what there is more value to this easily grown plant than we have generally supposed. Its peculiar benefit is in its action upon the liver. Have we not turned aside too much from the old-fashioned remedies for common diseases, and taken up with deleterious drugs? We are learning that our fathers and mothers, after all, knew something when they planted herbs and doctored themselves.

A STRAWBERRY-BED.—This may be prepared early or late in the season. But if the plants have to be shipped from a distance, the earlier the bed is ready the better. Really the most important points in strawberry-planting are: First, absolutely clean ground, free from couch-grass and any other invading plant; second, set your plants with as hard pressure as possible, and leave them exactly level with the ground—that is, the strawberry-plant should not be in a depression nor on a slight mound; third, invariably mulch the plants when set; this can be done with cut straw, new-cut grass, a few handfuls of long manure about each plant, or perhaps better yet, with coal-ashes. There is great advantage in the use of coal-ashes, because they keep the ground moist, but permit no accumulation of bugs and worms beneath. If hens are near by they will scratch over some kinds of mulch and very likely kick out the plants.

EARLY CUT HAY.—So much has been said about cutting hay early that it would seem that no more need be urged on that point. My experience during the past winter has been to confirm me in the belief that June-cut hay gives more milk than green pasturage. In other words, a cow fed on such hay will give more milk in the winter than in the summer. The value of

aftermath is also very much overlooked, and I should judge from observation that at least one third of our aftermath is wasted.

JAPANESE MORNING-GLORIES.—In the list of ornamental plants introduced for the last ten years I do not think any one surpasses for everybody's use the Japanese morning-glories. I should recommend their being started in pots as early as April 1st. Perhaps better yet, start them in paper boxes, which can be planted with the young plants. The seeds are easily sprouted, but they do not come into bloom as early as the ordinary morning-glories. I have heard it said that they make most admirable screens, which I readily believe, although I have grown them only on walls and trees.

E. P. POWELL.

PURE WATER.

Nothing should be so highly prized upon the farm as a supply of pure water. It is, therefore, remarkable that impure water is so frequently found where purity could be easily maintained. Household, stock-raisers, dairymen, all should see to it that the source of drinking-water for both human and brute use be beyond suspicion.

In the great majority of cases, according to chemical tests, the pollution may be traced to the barn-yard, and the cause may be the filthy condition of the place, the location of the well, or both. The well located in the barn-yard, except in the most rare instances, becomes in a short time a natural cesspool from which is pumped liquid manure of greater or less strength, according to the porosity of the soil, the amount of rainfall and the nearness of the well to the manure pile. Such water should be used for irrigation and for no domestic purpose.

The well should always be located at a safe distance from possible sources of pollution; the brick-work should be set at least as far down as the ground water-line, in cement impervious to water; the top of the well should be raised about a foot above the surface of the ground and be provided with a tight top to keep out all vermin, and the surroundings should be kept free of all substances that might pollute the water. The well should never be used for a refrigerator, nor should the washing of milk-cans or other utensils be carried on in its immediate neighborhood unless ample provision be made to carry away all wash-water. Slops and garbage should be thrown on the compost heap where they belong.

If the well is already situated in a doubtful place, and the water is thought to be polluted, the safest remedy is to fill it and dig in another place. The water drawn from such wells, even though it percolate through a considerable stratum of soil and be then limpid and cool and pleasing to the eye and the palate, may contain vegetable substance and animal remains in various stages of decomposition and living bacteria of many harmful as well as harmless species, besides mineral matter dissolved and in suspension. The use of such water is an invitation to the doctor.

Should the filling of the well be infeasible, the water used for drinking purposes should be purified. This may be done in many ways, the cheapest and safest of which is boiling. This kills all bacteria and destroys the harmful compounds in the water. After fifteen or twenty minutes of hard boiling the water should be passed through a porous filter to aerate it and remove the flat taste. When cooled it is ready for use. No unboiled water must ever enter the filter, which must always be kept perfectly clean by regular and frequent attention.

The Chamberland-Pasteur filter is perhaps the next best method of water-purification that can be used for the household. The working part consists of an unglazed earthenware cell through which solid matter cannot pass. It is at first even proof against bacteria. But these organisms in time find their way through the walls of the cell by a species of growth, and the filter becomes a breeding-chamber at least of undesirable stuff, if not of disease germs. The cup should be hoiled frequently to kill the organisms and to remove the other substances collected in and upon it. Other methods of water-filtration are generally too cumbersome for home use. At best water-filtration is only a makeshift, the water so obtained being a poor substitute for pure well or spring water.

M. G. KAINS.

EXTRACTS FROM CORRESPONDENCE.

FROM SOUTH DAKOTA.—I left Daue county, Wis., seventeen years ago, and have lived in Brule county, South Dakota, ever since, with the exception of one and one half years in Southern California. A South Dakotian in the East is looked upon as a sort of curiosity—a queer combination of human qualities capable of existing on grass, water and wind; an individual who lives on fond hopes of a misty future. There exists among our eastern friends mistaken ideas. When I was at the World's Fair in 1893 I met an old Daue county friend. He recognized me and said, "Well, John, where are you living now?" "South Dakota," I replied. He looked up and asked me, "Poor fellow, are you hungry?" There are a whole lot of people like him in the East. The whole trouble with South Dakota is this: Early settlers came to South Dakota from grain-raising states, and naturally went to raising grain. The first few years they raised fine crops and thought they would be rich soon. Every one tried to build the finest house and buy the most farm machinery on time. Another class tried to see how much money they could borrow on their land. The latter class are the people you see in the East who tell you such terrible stories about South Dakota. As the years rolled by the crops began to fail, and there were three years when the crops were nearly total failures. People could not pay the high rate of interest on their machine notes, to say nothing about the principle and the large loan they made on the home the United States gave to them free. The three dry years fixed them, and some went back to their eastern states; others went south to Arkansas and Missouri, and others north. They kept going for nearly three years, when the first that left began to come back. This put a check to the ones contemplating leaving; others saw their mistake in buying machinery and raising wheat. They went right into the stock-raising business. Those are to-day the well-fixed farmers of South Dakota. There are many farmers in this county now who annually turn off \$2,000 worth of cattle; some as high as \$50,000. The soil and grasses of South Dakota cannot be beaten anywhere on the American continent nor in the world. The stock industry of this county received a great impetus by the fact that the county expended nearly \$100,000 in sinking thirty of the finest artesian wells in the world. Ten other wells have been put down by private parties, which gives Brule county three hundred and fifty miles of running streams, besides a Missouri river frontage of forty miles. Brule county now has three creameries and one cheese-factory which bring in each patron from \$25 to \$100 a month, or from \$2.50 to \$3 a month for each cow, with cost of keeping almost nothing. I have traveled a great deal, having been in nearly every state west of the Mississippi river, and nearly all of them east of it, and I don't think there is a place in the whole United States where a man can make a living as easy as he can in South Dakota, if he only has a few cows.

Pukwana, S. D.

J. A. S.

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Our Farm.

SUPERIOR WORK DEMANDED.

INFERIORITY of work is too much the rule on the average farm. It is difficult to get out of this long-continued course. It requires advanced management to train the average workman into better ways. The ordinary farm-laborer is conservative in his notions. If directed in a general way to do a piece of work, he is inclined to do it in the hardest possible way. Many proprietors and managers, too, are inclined to conservative methods. Frequently one is found who prides himself in old-fashioned ideas. It is true that some of the principles and practices of farming have never been improved upon. Much loss has resulted, however, to many of those who have felt that no improvement was to be adopted in the last thirty years.

In the breeding of domestic animals a number of innovations have claimed attention. In the swine department there has generally been found very good advance in methods. The practice, however, of frequent changes of breeds as well as mixing of breeds has shown marked disadvantages. Scarcely a grade herd on any farm has uniform excellence. The breeder, as a rule, is not critical enough in his practice in mating breeding animals properly. Both in breeding and feeding much remains for the swine-grower to learn and practice, if he would succeed. A wider variety in food furnished for the pigs at various stages of their growth will do much to increase weight and improve the quality of meat products for consumers. There is a great difference in pork resulting from the right use or misuse of the variety of food which is most desirable.

Cattle and sheep breeding have been generally more neglected in the past ten years than in the preceding decade. During the past eighteen months new interest has awakened. They who are prompt to employ the best improved blood in breeding should find early and rich reward. A wide variety of grain as food for cattle and sheep is not important. Success lies in a large use of grazing and provender, with just enough grain at the proper stage of growth to give substance and flavor to the meat and dairy products. The average feeder and grazer should study the wants of his animals continually. The occasional regular use of condiments and oil-meal gives much larger results. In the case of all fattening animals great care must be exercised against any occasion for fright to the creatures. With shelter, food, water and kind treatment right management should win success.

Horse-breeding of late has been attended with a revival of interest. Owners of good foundation stock are encouraged to expect good returns for their efforts within the next five years. The rapid improvement in business is enlarging the demand for work-horses, as well as for drivers and carriage-teams. Breeders who are conscientious to furnish meritorious stock and ambitious to establish a good business reputation have now the opportunity of a lifetime to do a vast service to the breeding interest. They who study and use effort to improve judicious mating cannot fail to reap rich returns. Feeding is fully as important as anything attending the right growth of horses. It must be remembered that a horse is used for strength of bone and muscle, and the food required must be of the sort to produce hard muscle and strong bone and sinew. Variety of grain is not so imperative as for the food of other domestic animals. The particular kind required is, however, necessary if the proper form and finish is given to the growing equine. From its earliest days the colt should be treated with great kindness, and handled with care frequently, so that it may have the training at twelve months of age which assures it that mankind is not in the least to be feared. With thoughtful care and handling until three years old the creature should come to rank in knowledge, disposition and capacity next to humanity. It will require brains on the part of the proprietor or manager to accomplish desired results. In handling this animal, as well as all other domestic creatures, one must read and converse freely in the avenues where information is to be obtained. They who employ both mind and body cheerfully and faithfully cannot fall short of a rich reward.

M. A. R.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hammonton, New Jersey.

FEED AND THE PRODUCTS.

All farmers feed corn and wheat liberally to fowls that are to be fattened for market. It is well understood that in order to secure fat on a carcass the use of what are termed "carbonaceous" foods must be resorted to. For laying hens the food is nitrogenous; that is, it contains more of the albuminous matter. For instance, meat, skim-milk, the white of eggs and the gluten of wheat are nitrogenous. Fat, starch and sugar are carbonaceous. By keeping these facts in view the subject will be better understood. The supposition that corn is the best for fattening fowls in confinement or otherwise is not supported by investigation. The edible portions of a fowl (taking average of analysis) consists of about twenty-four and one half per cent of the nitrogenous elements and only two per cent of fat. Of course, there are other portions of a fowl that are not edible and in which there is more fat, but enough is known to affirm that in order to secure the largest increase in weight, when a fowl is being fattened for market, it must have a ration containing more of the nitrogenous materials than is found in grain, corn containing about eleven per cent and wheat about twelve per cent of nitrogenous matter. Young fowls that are growing will increase more rapidly than the adults, hence corn will give better results with fowls than with chicks; but there will be an advantage in a mixed ration, whether the fowl is old or young. Eggs are more nearly balanced than the flesh of the fowl in nitrogenous and carbonaceous matter, as an egg contains about fifteen per cent of the nitrogenous (classed as "protein") to ten and one half of the carbonaceous. Then there is the mineral matter (bone, etc.), of which one and one half per cent is found in the edible portion of the fowl and about eight tenths of one per cent in the edible portion of eggs. Hence the food must be of a character to supply every substance required by the fowl. Again, much carbonaceous matter is used by the fowl to supply bodily warmth in winter. Grain is really consumed like fuel, the body being the stove, and heat created. If grain is given largely in summer the fowl will not require it because it does not need heat at that season. It is easily seen, therefore, that corn and wheat may be excellent foods when the weather is cold, but very injurious in summer, an excess of grain resulting in the storage of the surplus heat on the body in a latent form, and which is known to us as fat. Corn is cheap only when it is required. If it is not needed it is very expensive. If nothing but corn is given a fowl it can starve in the midst of plenty. It dies because it has a full supply of the carbonaceous matter and needs nitrogenous. It cannot supply the waste of bone and tissue, yet its body may be weighted with fat. It becomes debilitated, weak, its legs fail, and disease carries it off. In addition to the grain, therefore, other foods should be used, such as cut clover, bran, cut bone, meat, linseed-meal, blood, animal meat, cabbage, potatoes, skim-milk, or any other kind of food, but do not confine the fowl to a grain diet. Give laying hens a ration about equally balanced in the nitrogenous and carbonaceous foods, and the same for growing fowls. When fattening adult fowls add linseed-meal and meat to the grain ration, as the carcass, though complete, may only require more fat; but never feed a ration to any class of fowls if the food is not of a kind to have some nitrogen, as corn and wheat exclusively will not give the best results.

ROOM FOR A FLOCK.

If there is plenty of land it will pay to allow an acre of ground to fifty hens, the hens to occupy half an acre while grass is growing on the other portion. Of course, this may appear expensive, but the hens will thrive better and give a greater profit. The greatest difficulty to be met with is the cost of fences. This, however, depends upon the kind of fence. It may be possible that if there is a space of an acre between the flocks they will remain separate, as stray members from one flock to another are always given a reception that is not very agreeable; but to have green food growing upon a portion of the ground will require fencing. Everything

depends upon how much money one wishes to invest, the governing influence in deciding such matters being capital. So far as space in the poultry-house is concerned, it may be stated that the habit of crowding fowls in a small poultry-house has existed so long that when the beginner is advised to allow each hen ten square feet of room in a poultry-house he is prone to object because of the expense. "It takes too much money," is the reply. Probably that is true, but if one has not the capital he will find it more economical to stay out than to stay in with the conditions against him. If ten hens require a house ten by ten feet, it seems like a large space, but there should be plenty of room for scratching and keeping busy. Ten hens in such a house will lay more eggs than will twice that number that are crowded.

GET RID OF DRONES.

Culling the flock improves it every year, as a higher standard will result. By an observation of the individuals much can be learned. The good hens become pets, and pride in their individual excellence is entertained on the part of the owner. The young stock will be hatched only from the best producers, instead of from eggs taken indiscriminately from the egg-basket. No farmer who will carefully cull out the drones need depend on brooders to produce breeds for him. Pure breeds should be used, however, and especially pure-bred males. Even with the choicest stock the matter of selection should not be overlooked. There are drones and idlers in aristocratic flocks as well as in the flocks of low degree. There is room for improvement in every direction. The object should be to impress upon poultrymen and farmers the importance of a close scrutiny of the stock, and to teach the fact that a profitable flock can be made up of what may look like unpromising material.

PLYMOUTH ROCKS.

Since the introduction of the well-known barred variety of Plymouth Rocks there has been a desire to have the breed of "assorted colors." There are now white, buff and barred Plymouth Rocks, the Black Javas being similar to a possible black variety of Plymouth Rocks. As to the merits of the different varieties it is difficult to give a preference, but it may be safely stated that none are superior to the old-time barred, though they may be equal to them. So far it has been demonstrated that the color of plumage has nothing to do with the characteristics of the breed other than to please those who prefer some favorite color.

MISTAKEN ECONOMY.

The principal mistake committed in the poultry business is that of trying to do twice as much with poultry than may be expected from any other pursuit. The temptation to use one hundred and forty eggs in a one-hundred-egg incubator is a common occurrence, and always results in loss. Some persons who desire too much will put twenty eggs under a hen that could not comfortably cover more than one half that number, only to lose all of the eggs. Such "economy" is really extravagance, and fails in the desired results.

SCALY-LEG.

When the fowls are kept closely confined for awhile (and also at times when they are on a field) they will be afflicted with scaly-leg; that is, an incrustation forms on the legs which sometimes is of a nature to make the shanks appear as though they were an inch in thickness. This difficulty is due to minute and invisible parasites, but they quickly succumb to grease, hence an application of melted lard twice a week will remove the crust in two or three weeks.

EXPENSIVE BUILDINGS.

It is claimed by some that more money can be made from flocks kept in separate houses than when they are kept in a continuous house that has been divided into apartments, as there is less risk of disease in the flocks when they are in separate houses, and they can also be given more room in the yards. Separate houses are also better for the beginner, as one is not compelled to expend a large sum in the construction of a house at the beginning for a great many fowls, but can begin with one flock in a single house and build

more houses as occasion demands. Those who have failed are the ones who have built elaborate poultry-houses, with all the "modern conveniences," and who have put more capital in such than they could possibly have returned to them in several years, or even with the use of large numbers of fowls and the most rigid economy.

SELL AT A PROFIT.

The hens that cease laying and which are intended for market need not be sold at a loss. Just before selling them let them be confined for ten days or two weeks, and give them all the wheat in the morning and corn at night that they can eat, with a mixed ration at noon. Do not confine them in coops, but put a number together in a yard. They will, if made fat, not only be a pound or two heavier, but bring more than the market price a pound.

GREEN MATERIAL.

If the hens can run on a clover-field it will be all they will need while the weather is warm. White clover is better than the red, because it is shorter and can be more easily eaten; but any kind of grass may be utilized. A lawn that is frequently mowed is the proper place for chicks, as they will incur less liability of becoming wet when there is a heavy dew or rain, which may be very injurious to all young poultry.

INQUIRIES ANSWERED.

Indigestion.—W. S., Trenton, Mo., writes: "What shall I do for a hen having a large, soft crop? She eats, but does not lay. When I hold the head down and work the crop with my hand foul greenish matter runs out."

REPLY:—It is caused by overfeeding, indigestion resulting. Give no food for forty-eight hours, and for three or four days thereafter give one ounce a day of lean meat—no other food. Provide plenty of sharp grit.

Chicks Dying.—R. A. S., Wiggs, Ark., writes: "When my chicks are first hatched they are thrifty looking, but soon begin to die. They eat readily, but stand and sleep. Sometimes they get down for an hour before dying. They appear free from lice."

REPLY:—The symptoms point to the presence of the large gray lice (not the mites) on the skin of the heads and necks, which are only discovered by close observation. Anoint with a few drops of melted lard or olive-oil.

Sore Eyes.—C. A. L., Lone Mountain, Va., writes: "I have two hundred chicks from two to eight weeks old which have sore eyes. What can I do for them?"

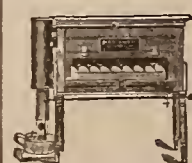
REPLY:—No mention is made of the conditions or management. The difficulty may be due to dampness, to exposure, to winds at night, or it may be some contagious ailment. Occasionally insects may be at fault. Anoint faces, eyes and tops of heads with a mixture of ichthyol and olive-oil, equal parts, using a few drops only once a day.

Refusing Corn.—E. F. K., Whitehouse, Wis., writes: "I have my fowls in a park. They have plenty of water and corn, but they have gotten so that they will not eat corn. The feathers are coming off their necks."

REPLY:—They have been fed on too much corn and are pulling feathers from one another, due to idleness. Feed nothing in the morning. At night give a pound of chopped lean meat to twenty fowls. The next day give only as much chopped grass as they will eat. Alternate the food in that manner, and also spade the yard and let the fowls scratch and exercise.

HEALTH, PLEASURE AND PROFIT

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Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Bronze and Wild Turkeys.—P. C. H., of Ulster county, N. Y., writes: "Where can I get a Bronze or wild turkey gobbler?"

REPLY BY T. GREINER:—Look up the advertising columns of agricultural papers. For a Bronze gobbler you might address F. E. Dawley, Fayetteville, N. Y. For a wild one, perhaps the Rhode Island experiment station.

Foreign Market for Apples.—The attention of growers and shippers of apples is called to the following note: The Bureau of Information of the National Association of Manufacturers, The Bourse, Philadelphia, Pa., is in receipt of a request from William Young, Rotunda Buildings, Cardiff, Wales, for the names of some large producers of apples for which he is in the market for a considerable quantity, and desires connections for the coming season's crop.

Rhubarb Going to Seed.—C. S. Y., of Lewis and Clark county, Montana, writes: "Please tell me why my rhubarb-plants all run to seed. Some were planted this spring; others have been in the same place three years, but nearly every plant produces seed. I cut off the seed-stalk as soon as it appears, but still they come again."

REPLY BY T. GREINER:—It is the nature of rhubarb-plants to produce seed. You can only stop them from doing that by breaking out the seed-stalks as fast as they appear, as they will do that persistently.

To Kill Moles.—M. J. S., Bedford, N. Y., writes: "Kindly inform me how to get rid of ground-moles. I have a trap, but am not successful getting them. Is there not something to drive them away? I have had to plant corn three times over, and they have run the length of the rows of peas."

REPLY:—Open the runways with a small, smooth, sharp-pointed stick. Through a small funnel made of a quill and writing-paper pour into the runway a small amount of sugar mixed with a little strychnine. The moles are fond of the sugar and will be killed by the poison.

Poison-ivy.—D. W., Fayette, N. Y., writes: "I am troubled on my farm with poison-ivy, which grows in fence corners of a rail-worm fence, as well as upon some straight wire fences. It runs up the stakes and posts and still higher, and branches out on all sides. My inquiry is as to a mode of destroying the same. Digging out is rather difficult, because most workmen do not like to come in contact with the ivy, and besides, it grows up again. Burning the fence corners where it grows is hardly feasible in all cases, without injury to fence and crops, and besides, workmen have the idea that the smoke and heat from burning ivy produces the same results as from contact. Some suggest digging out as far as possible, and scattering salt on the roots not removed. I find that poison-ivy is much more common than it used to be, and seems to multiply yearly. In wooded land it often runs up trees as well as fences on lines; but this is not so objectionable as in open fields, where it becomes unsightly, notwithstanding its pretty blossoms. If you can give me any advice through your paper or otherwise how to proceed to exterminate poison-ivy, I will esteem it a favor."

REPLY:—There is a singular fact about this poisonous plant. Some persons can handle it with impunity and are in nowise affected by it, while others are severely poisoned by touching it, or even by being near it. As to getting rid of the plant we can give only some suggestions for experiment. Get an "immune"—one not affected by the plant—to mow off all the vines close to the ground with a brush scythe. Do this in midsummer, before the "return flow" of sap to the roots begins. Apply salt, or spray kerosene over the roots in sufficient quantity to kill them. Plowing and thorough cultivation will, of course, quickly dispose of such plants in arable ground.

Preserving and Pickling Cucumbers.—D. T., West Plains, Mo., and others. In reply to your questions we republish the following from Mr. Greiner's "Garden Notes" in a former number of this paper:

PRESERVING.—The cucumbers are picked every other day in the morning as soon as the dew is off, and sorted into three sizes from two to seven inches in length, each size packed by itself. If possible, the packing is done in the afternoon of the day they are picked. Barrels may be used; when full, the cucumbers are covered with brine of sufficient strength to float a potato. No more salt is to be added. After standing three or four days to settle, the scum should be removed, and each barrel refilled from other barrels containing cucumbers of the same size which had been in brine of like strength. The barrels when headed up and marked are ready for shipment. A forty-gallon barrel will hold from five to six thousand of the smallest size, and from ten to fifteen hundred of the largest. The cucumbers must be cut from the vines with a sharp knife, or better, scissors, leaving on each a bit of stem. Cucumbers put up in this brine will not shrivel, and need but little refreshing, but housewives must bear in mind that they will not keep through the second summer without adding more salt.

PICKLING.—Drain them from the brine, fill any receptacle two thirds full, pour boiling water over, and let remain twenty-four hours. If too salty (which will depend upon the size), pour off the water, stir thoroughly from the bottom, that they may freshen evenly, and again cover with boiling water. After twelve hours drain, and cover with weak vinegar; three days later drain, and cover with cold vinegar of full strength, sweetened and spiced or not, to suit the taste. I will say, however, that I do not know of any grower around here who ever sold his pickles in any other shape except just put up in brine. I am not aware that there is a wholesale market for ready-made pickles; that is, for pickles in vinegar. And even if there were such a market, the average grower, lacking the skill and experience necessary for putting up pickles in vinegar or in any fancy style, would do far better to sell his pickles in the brine.

VETERINARY.

Conducted by Dr. H. J. Detmers.

To regular subscribers of FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered under any circumstances.

Garget.—B. F., Mystis, Iowa. Please consult FARM AND FIRESIDE of June 1st.

Paralytic Hogs.—M. S., Abilene, Kan. Questions like yours have recently been answered in nearly every number. Please look them up.

Warts.—H. F. L., Somerville, Ala. Answers to questions like yours have been given of late in almost any number of this paper. Please consult them.

A Barren Cow.—R. S., Kent, Wash. If your cow has been unproductive for two years, the most economical thing you can do is to prepare her for beef.

Toothache.—Mrs. D., Bourbon, Mo. Your seventeen-year-old mare has one or more defective or diseased molars. Have her examined and the defective or diseased tooth or teeth extracted by a competent veterinarian.

Probably Diseased Lungs.—G. A. S., Jackson, Ohio. The few symptoms given by you occur in horses which have diseased lungs or which are affected with so-called heaves. If you desire a definite diagnosis have your mare examined by a veterinarian.

A Spoiled Quarter.—T. O. D., Ord, Neb. The best you can do is to leave the spoiled quarter of the udder of your cow severely alone, for if you do, very likely it will remain as it is and not become troublesome, which surely will happen if you irritate it.

Wart on a Cow's Teat.—D. C. L., Rochester Mills, Pa. It is not advisable to remove such a wart while the cow is in full milk. You will have to wait until the cow is dry, and if the wart then has not already disappeared, have it removed by a competent veterinarian.

A Lump.—A. K. W., Burlington Junction, Mo. Give a description of the "lump" (a very indefinite term, anyhow), describe the peculiarities of the lameness and state which knee, front or hind knee, you mean. Maybe that you mean neither and supply the term "knee" to the hock-joint.

Acute Indigestion.—P. M., North Benton, Ohio. You ask for a cure for horses taken with "acute indigestion." Now, that is a very sweeping term, and it must be very much doubted whether you have a clear idea of what you mean by it. Give a description of what you mean and I will answer you.

Like Grease-heel.—A. H. Q., Tulare, Cal. If the feet of your sow present the appearance of those of a horse that has grease-heel, keep the animal out of mud and water, dirt and manure, and try liberal applications, made twice a day, of a mixture of liquid subacetate of lead, one part, and olive-oil, three parts.

Diseased Teeth.—A. C., Elk City, Neb. Your mare undoubtedly has one or more diseased molars. Have her mouth examined and the diseased tooth or teeth extracted by a competent and reliable veterinarian. The veterinarian (?) who "fixed" her teeth, or said that he did, perhaps filed a little on her teeth, and probably humbugged you.

So-called Blind-staggers.—S. H. W., Henryville, Ind. Your colt suffers from so-called blind-staggers (insanity in consequence of morbid pressure upon the brain, usually caused by an accumulation of serum in the cerebral ventricles), and is incurable. It is not only possible, but even probable, that the disease was brought on by the treatment you bestowed upon the animal against lameness; namely, the clipping and greasing.

Severely Cut on a Barbed-wire Fence.—J. T., Greenock, Pa. You ask me what I would recommend you to do to cure your horse severely cut by a barbed wire on the inside (median side) of the fore legs. I will give you a candid answer and say that I advise you and all others residing in states in which good veterinarians are available, to call in such a case at once on a competent veterinarian and to intrust him with the treatment, because by doing so in time you will invariably save much time, trouble and money.

Warts on Calves—Symptoms of Swine-plague.—J. B. W., Ord, Neb. You will find in nearly every number of recent date an answer given to questions concerning warts. Please consult them.—The symptoms of your pigs, as described by you, are common in swine-plague, or so-called hog-cholera. Since the form of the disease in which the symptoms described occur is not a very malignant one, the disease of your pigs ought to yield to the serum treatment of Dr. Peters, in Lincoln, Neb., if there is any merit whatever in that treatment.

An Obstruction in a Cow's Teat.—R. G. S., Point Marion, Pa. If such an obstruction in the teat of a cow as you describe can be removed by forcible milking, it may be done, and is all right. If you cannot, I would not advise to attempt the removal of the same with instruments, such as probes, milking-tubes, etc., because the usual result is that after the use of any instruments, unless applied by a competent veterinarian under strictly aseptic precautions, the trouble will become much worse, and the whole quarter, as a rule, will become seriously inflamed.

Bitten by a Rattlesnake (2).—R. E. B., Tidoute, Pa. You seem to be positive that the cow has been bitten by a rattlesnake, and although I do not at all doubt your veracity, I very much doubt the correctness of your assertion, because such edematous swellings beneath the lower jaw and the throat gradually extending to the dewlap and the brisket, as you describe, are frequent in cattle suffering from dropsical effusions in the chest and other parts of the body. If my diagnosis is correct, the cow very likely will soon die, and then a post-mortem examination will reveal the true cause of death. If an animal really is bitten by a rattlesnake, the best treatment, according to my experience, is to make immediately, where the animal has been bitten, hypodermic injections of tincture of iodine.

Looks Somewhat Like Anthrax.—H. F., Rock Grove, Ill. It is possible that your calves, sick only fifteen minutes, died of anthrax. Still, as you did not make, or at any rate give no account of a post-mortem examination and say very little about the symptoms, it is impossible to make a definite diagnosis. If any more should die, have the blood examined by a bacteriologist, or send a little of it, packed with all necessary precautions, to your state veterinarian for examination.

Six Teats.—J. F. L., Freehold, Pa. One or two supernumerary teats, five or six in all, are quite frequent in female cattle, but the supernumerary or supernumerary teat or teats will never cause any trouble if no attempt is made to draw milk out of them when the animal becomes fresh for the first time. It is somewhat different if there is a twin, or as you call it, a webbed teat, which, although usually milked as but one, will be more or less troublesome. Whether any real improvement can be affected by a surgical operation, or whether it will be best to leave the double teat as it is, depends upon the result of a careful examination.

Bog-spavin and Bone-spavin.—D. J. E., Sedalia, S. C. It is only in very rare and exceptional cases that so-called bog-spavin and thoroughpin cause any lameness. In a case like yours, in which an animal affected with these ailments show lameness, the latter, as a rule, is caused by an existing bone-spavin, which is not recognized because hidden by the larger and softer swelling produced by the so-called bog-spavin. Besides this, the lameness of your mare, as you describe it, presents the characteristics of a lameness caused by bone-spavin. In regard to the treatment of the latter nothing can be done with any show of success until the fly season is over, and by that time, probably in one of the November numbers, you will find an article in the columns of this paper which will give you the desired information.

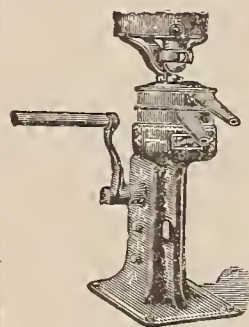
A Bungling Operation.—M. E. S., Bane, Va. Surely the man who castrated your horse must have made a bungling job of it. If a swelling of a tremendous size makes its appearance after the operation has been performed, it is caused by a septic infection due to a lack of antiseptic or aseptic precautions at the operation. The "lump" and the end of the cord, which you say are hanging out, can hardly be anything but a so-called champignon; namely, the protruding cord, degenerated and much enlarged by septic infection. Such a champignon, often complicated with a fistula of the spermatic cord, usually makes its appearance if, on removing the clamps, the spermatic cord is left protruding through the wound in the scrotum, but particularly if at the same time the parts are not properly cleaned, if the wound in the scrotum is too small, if the clamps had been put on loose (not tight enough) or had been left on too long before they were removed. Take your horse to a competent veterinarian to have him operated and the champignon removed, and then make the man who castrated the horse pay the bill.

Fistulous Withers.—J. T. G., Churchville, Va. What you describe is a fistulous wither, which will be cured if the treatment is intrusted to a competent and reliable veterinarian, but which will cause you more trouble and expense than the animal is worth, and then, after all, be left uncured if quackery is resorted to or if the treatment is intrusted to an incompetent person. Although it is easy enough to give a general outline of the treatment that is necessary, it is utterly impossible to go into details, because no two cases are exactly alike, and in every case a great deal, in fact, almost everything, depends upon the good judgment of the attending surgeon, who must decide when and what operations have to be performed, what tissues have to be destroyed, when the destruction or the application of caustics must be stopped, and when and where the process of healing must be encouraged and he allowed to proceed. Even one apparently slight mistake may render the whole treatment abortive, whereas the same is bound to be successful if no mistakes are committed and nothing essential is neglected. The general rules are simple enough, but the mere knowledge of the same does not enable any one to execute them in a proper manner. The same may be put in a few words; namely, First, procure the most perfect drainage; second, destroy and remove all parts and tissues that have lost their vitality and will interfere with the process of healing; third, preserve the greatest cleanliness, and dress the interior surfaces in such a way that a strict asepsis will be maintained.

With Calf or Not With Calf.—G. H. R., Ridgway, Pa. The symptoms you give, the movements of the calf you have felt, the salty condition of the milk, etc., must be considered as sure signs of advanced pregnancy. That the cow now and then has shown slight symptoms similar to those shown by cows being in heat is not such a very uncommon occurrence in cows with calf as you seem to know yourself, because you say you have observed it before in the same cow. That the movements of the calf are not now as lively as before, and that the cow is often short of breath, is easily explained by the fact that being in a good pasture she often gorges her stomach and thus causes the same to encroach upon the space occupied by the uterus and by the lungs, and also by the large blood-vessels in the abdominal cavity. If the calf were dead, abortion would be an almost certain consequence, except, perhaps, in those very rare cases in which the os of the uterus remains securely closed, for then a mummification of the calf might take place and the latter might not be born, but remain indefinitely inside of the uterus. Still, in such cases, which at any rate is exceedingly rare, no "life" whatever would be felt. If the calf had been killed by violence or by other outside influences, the cow would have shown indications of it and would not have remained in the perfectly healthy condition in which you say she is and always has been. The most reasonable explanation, it seems to me, would be that the cow was served, and conceived, later than you know, or that on account of the uncommonly fleshy condition of the animal, or possibly due to other unknown causes, the case of your cow is one of an extraordinary long period of gestation. There are well-authenticated cases on record in which a cow carried her calf fully eleven months, or three hundred and thirty days, and it may be that hers is another one. If the calf had died, or if parturition had been prevented by some abnormal process, at least some preparation for parturition would have taken place, and very likely would not have escaped your observation. That the cow "has not made any bag" may be due to the fact that you have kept on milking her too long. As far as I can see you can do nothing but to wait and to watch for another month. Maybe that the cow will have a calf before this reaches you. Please report the outcome of the case.

Puerperal Paralysis.—J. F. M., Tiltmonk, Oreg. Puerperal paralysis, also called calving-fever, milk-fever and several other names, is a disease which is much easier prevented than cured. Like in most other infectious diseases, two kinds of causes, usually called predisposing and exciting causes, must be distinguished. Both of these, if seems, must be present and be acting if the disease is to be produced, and where both of them cannot be destroyed or be warded off, the disease is not apt to make its appearance if either the predisposing cause or the exciting cause is removed or prevented to act. Puerperal paralysis almost exclusively occurs only one or a few days before calving, in cows which are very good milkers and are in a very good condition as to flesh, or which have received an abundance of good and nutritious food during the last two months of the period of gestation. Consequently it stands to reason that good or excellent milking qualities, an abundance of good food and a very good condition as to flesh must be looked upon as at least some of the predisposing causes. Experience has confirmed this, and it has been found that the disease will but very rarely make its appearance if cows with excellent or very good milking qualities and in very good condition as to flesh are kept on a light diet during the last two months before calving, so that during that time no flesh will be produced and no improvement in condition will take place. As far as the exciting cause is concerned, there can be no doubt that the same consists in an infection brought about by an invasion of pathogenic (disease-producing) bacteria through the mucous membranes of the sexual organs at the time of calving. To a certain extent such an infection or invasion, respectively, also may be prevented, first, by keeping the premises where the cows are kept in the very best sanitary condition; in other words, by keeping the same dry, well-ventilated and clean, and preventing as much as possible any decomposition of organic substances by removing the droppings of the cattle at least twice a day, by procuring perfect drainage, and if the premises are a stable or an inclosed room or building, by having a sufficient number of windows giving an abundant access to sunlight, not only to certain parts, but also to every nook and corner. If all the above is complied with, the disease, which you say is very frequent now, will become very rare, or will disappear altogether. If it should reappear, probably due to the fact that the measures recommended have not been applied in a sufficiently thorough manner, an incipient infection (or rather an invasion of the bacteria) may be neutralized by irrigating the uterus of every cow immediately after the calf has been born with a few quarts of a one-percent solution of creolin (Pearson's) in blood-warm water. Whether the irrigation is made by means of an irrigating apparatus, described before in these columns, or with a large syringe is immaterial; only if a syringe is used, the operation must be performed in a careful manner so as not to injure the cow. Your other half dozen questions will have to wait for an answer until the next number, because I cannot allow one man to monopolize all the available space of a whole number.

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A crumb may quicken hope to stronger breath,
And every day we give or we withhold
Some little thing which tells for life or death.
—Susan Coolidge.

A TRUE KNIGHT OF LABOR

BY KATE TANNATT WOODS.

Author of "A Fair Maid of Marblehead," "The Wooing of Grandmother Grey," "Hidden for Years," "The Minister's Secret," "Hester Hepworth," "Sophia Blount, Spinster," "Six Little Rebels," "Dr. Dick," "Mopsy," Etc., Etc.

CHAPTER XIX.

THE CHAIN TIGHTENS.



WHILE Mrs. Golden was nursing Celeste and caring for the two children Captain Jasper had taken another journey to Massachusetts to see his eminent physician. He had been in direct communication with certain officials for a long time now, and the case was being quietly worked up by them. The chain of evidence was tightening daily. Joe had communicated some very important intelligence to Mrs. Unwin, and plucky "Marion Penhurst" was ready to act the moment her testimony was desired. Smithers had at last, thanks to Mr. Crossman, been discharged, and was now at that gentleman's house awaiting orders. Of the two men who had testified against him, only one could be found, and he was in a state of beastly intoxication, while his "partner," he of the gloves and smooth voice, was reported to have skipped the country.

Doctor LeGrande, in his distant home, had never been more confident or bold than after his interview in the woods with his hired minions. If he could get hold of the half-witted fellow at the works, who had aided the child, he should be content; but the Frenchman had promised even that, and the liberal payment he had made them would secure them indefinitely. Never was artful plotter more mistaken.

He was anxious to get things settled to his liking and then go abroad for his health. He told his patients this, and hinted more than he said concerning his sad life wearing upon him, and his domestic sorrows. His patients pitied and consoled him. They mourned openly for him and praised him for his bravery. His wife was described as "high-strung," "proud," "domineering," on account of her fortune, and the doctor piously rolled his eyes and sighed whenever his troubles were mentioned. Even in his profession much of his popularity depended upon the facility with which he humbugged people. Other physicians knew this; but it was well understood that certain women would rather die under his care than live under the care of some one less fashionable and popular.

"The poor dear doctor was afflicted with insomnia of late; and no wonder, with so much trouble."

Captain Jasper and his friends heard plenty of this kind of talk, and other things, also, not quite so flattering. They kept quiet and worked. To no one was he more communicative than to his patient, Captain Jasper, who came such a long distance to place himself under his care.

They held long confidential talks, and the captain was even persuaded to spend a night now and then under the doctor's roof.

While the shrewdest detectives were shadowing the doctor Mrs. Golden was learning still more from Celeste. When the poor woman's consciousness returned she tried in vain to rally and rise from her bed. It was impossible, and each attempt was followed by increased prostration.

Her great anxiety for Paul did not lessen even when she saw the boy with Mrs. Golden's arms about him and knew that the lad trusted and loved this generous woman. The boy's life had been threatened, and it preyed upon her mind. All the sins of her life, all the bitterness, craft and revenge seemed crushed out of her, and her mother-love triumphed over them.

When Mrs. Golden asked if she would have the doctor who cared for Meg the woman grew wild and hugged Paul closer to her.

"No, let me die first! Kill me, send me to prison, but save my boy, and never, never, let that man touch him!"

"Never mind, Celeste," said Mrs. Golden. "I know more than you think; I will care for Paul, and you, too; no harm shall come to you while we are surrounded by mystery. As you pray to have your child spared from suffering, will you not tell me the

truth about the sweet little one who has been so kind to you since you were made ill? I am your friend, am I not?"

"You are an angel of mercy," said Celeste, as she put her nurse's hand to her lips; "an angel of mercy; and I am a bad, wicked woman. Oh, my God, what can I do?"

"Tell me the simple truth, Celeste," said Mrs. Golden. "Tell me all, and I will help you."

"I will," said the woman. "I will, if he kills me; but spare Paul, my poor hapless boy; he made him deformed; he threatened to kill me."

"You quarreled, and he struck you?" suggested Mrs. Golden. "I heard angry voices."

"Yes, he maddened me; and when he cursed my poor boy and said he had planned to put him out of sight forever, like her, then I grew wild and called for you, and he struck me down."

"Poor Celeste!"

"Oh, God, you are merciful, you pity me. Me, the wretch that has hated you, and been so wicked."

The woman buried her face in the bed-clothes, and sobbed.

"Poor Celeste, poor woman, the God you speak of is merciful, however you have sinned; he has kept one sweet, pure spot in your heart, and that is warm for your boy. For his sake, tell me who is the father of my little charge; she is sleeping now, and cannot hear you."

The woman almost gasped, as she whispered, "Dr. LeGrande."

"And he is Paul's father, also, is he not?"

He had spoken softly, very softly he thought, but the child opened her eyes and with one wild cry of joy she sprang into his arms.

"Oh, Uncle Joe, I knew that you would come; I knew it, I knew it, for I said the prayer every day."

Joe took a blanket from the bed and wrapped it about her and held her in his arms.

"Peggy," he said, "I can't tell who is the happier, you or your Uncle Joe."

CHAPTER XX.

RETRIBUTION.

Dr. LeGrande, alias Brown, alias Newton, alias Chester, was seated in his office one evening about a week after Joe's visit to the house in the woods. The doctor had not been out since his last visit to his "distant patient." He had been suffering from an attack of la grippe. He was not sick enough to be in bed, nor well enough to go out; and moreover, he was anxious to hear from the two men he had employed.

He was in a fractions mood, for Celeste's brother Antoine, whom he thought securely out of the way, had paid him a visit and acted in a very ugly manner. Antoine was a fiend when in liquor, and he had been drinking. Soon after Antoine left Captain Jasper called, and the doctor was rejoiced to see him.

"I have left some friends of mine in the waiting-room," said the captain.

"Bring them in, bring them in. I am bluer

which has been shown her. Florence, can you forgive me, will you ever forgive me for all you have suffered?"

He leaned upon the arm of his chair as he spoke, and she saw that his strength was not what it had been.

She started forward, but her brother held her back. Looking about the room her eyes rested on her child and on the boy with his crooked shoulder. She called them to her, and taking one hand of each in hers, she said, in a trembling voice:

"Your tribunal is not of earth alone; for the sake of the helpless, innocent children I forgive you!"

He bowed his head and asked permission to go to his own room to arrange some papers. The officers accompanied him and stationed themselves at the door. Before they could divine his intent the sound of a pistol-shot rang through the house, and the fashionable doctor was dead.

"Suicide is confession," said Captain Jasper. "The chain of his own sins strangled him."

The two women he had so deeply wronged stood side by side at his grave, and Paul held the hand of the "little lady." What it all meant the boy did not quite understand, only that he was happier now, and the "Hate man" was gone away, never to trouble him again.

It was long, long months before Florence LeGrande, even with the aid of her competent lawyers, could unravel the complications which the dead man had made with the estate of Deacon Smithers. Her brother, who had never been strong, soon followed the sister who had died of quick consumption soon after her betrothal to Joe. Mrs. LeGrande clung closer and closer to the friends who had saved her from a fate worse than death.

Miss Perkins was induced to give up journalism and devote herself to the interests of Mrs. LeGrande as her private secretary; Mrs. Golden, after a trip to Idaho, became the trusted housekeeper, while Celeste looked after the family sewing and knew more happiness than she ever dreamed of, for Paul was always with her. Joe had been made the boy's guardian, and each day the boy had simple lessons adapted to his bewildered intellect. Nothing could surpass the devotion of Celeste to her former mistress; she seemed to be doing daily penance for her sins, and neither by word nor look did Mrs. LeGrande ever recall the unhappy past.

Poor Celeste's troubled heart grew weaker and weaker, and in two years she passed away, holding fast to the mistress' hand on one side, and that of her boy on the other. To Joe she left her son and the written history of her tragic life.

Little Peggy, under the care of a faithful governess and her mother, blossomed out like a flower, and gradually ceased to talk of the bad dreams which saddened her childhood.

About two years after the death of the doctor a western paper contained the following item:

"Mr. Joseph Rivington, who inherited several millions from an uncle in California, is now the president and founder of the largest smelting-works in the United States. The basis of the business is 'co-operation and profit-sharing'; each employee having an interest in the business after a certain amount has been accumulated.

"This is not the wild scheme of a visionary, but the result of careful investigation in this country and in Europe.

"In order to understand fully and perfectly the relation of capital to labor, and to view the question on both sides, Mr. Rivington assumed the garb and duties of a common laborer, and was for nearly a year employed at the 'Great Bubble Steel Works' in this country, and prior to that worked abroad.

"He has selected his men with great care, and is fortunate in having for his chemist, Rufus Carroll, Ph.D. Success is assured from the start. When intelligence, industry, generosity and capital form a combine hundreds of men must profit by it."

"There," said Miss Perkins, as she read the paragraph aloud to a group in Mrs. LeGrande's library, "am I not a prophetess? Did I not say long ago that your handsome athlete was a true 'Knight of Labor'?"

"I knew it before you ever knew him," said Mrs. LeGrande, with a smile.

"The prophecy was for my benefit, dear madam," said Mr. Crossman, who, with his wife was spending a few days with Mrs. LeGrande.

"Yes," said Miss Perkins, "I have never been able to convince Mr. Crossman that journalists have a sixth sense."

"But you are no longer a journalist, Marion," said her hostess, who never called her by any other name than the one she had first known her by.

"I was wedded to it until I found you, and then I transferred my affections," said Marion, with a toss of her pretty head.

"And you will be wedded to some one else as soon as young Carroll is well established in business, I, too, can prophesy, although I am only a hard-working lawyer," said Mr. Crossman.

"Sil!" said the girl, with an arched look, "lawyers never prophesy; they argue, and reason, and deliberate, and hem, and haw, and—"



"PEGGY, I CAN'T TELL WHO IS THE HAPPIER, YOU OR I."

THE SOUND OF A PISTOL-SHOT RANG THROUGH THE HOUSE.

"Yes, yes, God help me. He promised to marry me; and I was so young."

"I was sure of this, Celeste, quite sure. Tell me one thing more, is Margaret's mother dead?"

"No, no; do not ask me more."

"I must, Celeste. Where is she?"

"In an insane asylum; he calls her crazy, but she is not. Poor, poor lady, she has suffered, too; may God forgive me for swearing to his lies. Do not let them part me from Paul; do not let that cruel man get him; I would rather die. My poor baby, my loving Paul!"

"No one shall harm your boy while I live," said a clear, strong voice, and Joe stepped forward, holding the lad by the hand.

"This is Joe, mother dear, my Joe, the little lady's friend, and now you will not cry, and the 'Hate man' cannot hurt you."

One glance at his face recalled the past to the woman.

"Spare me," she said, "oh, spare me, for Paul's sake! I deserve all the punishment you can give; all the misery I deserve; but spare me for his sake! Oh, Mr. Rivington, God will bless you for your kindness to him, my little Paul, who is not like other children."

"Be quiet, Celeste, be calm; you have been more sinned against than sinning, and I have searched for you everywhere. Let me see my little Peggy, Mrs. Golden, and then I will talk more with Celeste when she is calmer."

The nurse led him into the next room, and Joe gazed upon the child's face with great tears of joy standing in his eyes.

"She is getting the old, happy look back," he said. "Our precious Peggy."

than indigo, to-night. The fact is, I have been down with the grippe for some time; your friends are sure to be welcome."

Captain Jasper opened the door and Smithers entered with his sister upon his arm; next came Joe Rivington, leading little Peggy; then Mrs. Golden, almost supporting Celeste, not yet recovered from the blow which had felled her down; then Mr. Crossman, chatting with pretty Miss Perkins, followed by Jack Hurd and poor Paul and "Uncle Benson." A tall man in uniform now stepped forward holding a warrant in his hand.

"Doctor," he said, "your game is up. Behold this cloud of witnesses."

The doctor partly rose from his chair and gazed wildly from one to the other. His glance rested upon the stately woman, the only one of the group whose face betokened pity. His eyes fell, and he muttered, "The game is up; you are right."

When the officer approached to place the handcuffs upon his wrists the wretched criminal heard his wife's voice for the first time since she had been sent from him, pleading with him to be merciful to her. She was again pleading, but this time for him.

"Gentlemen," she said, "even justice can be tempered with mercy; pray spare him that humiliation in the presence of us all."

The doctor looked at her for one moment, and then said, as if the one grain of goodness in his nature had triumphed over the evil in his supreme moment of agony:

"Gentlemen, let me say here, and now, that the lady who has spoken is my own lawful wife, and has never deserved the cruelty

"Work faithfully for the oppressed and unfortunate," said Mrs. LeGrande, with a quiet glance at Mrs. Crossman.

"Yes," said Marion, "they do; but all the same, Mr. Crossman, I shall never marry."

How she kept her word let the records speak.

THE END.

THE NAME "YANKEE."

Some Englishman wants to know if "Yankee" is regarded as a term of reproach in the United States. Certainly not in New England. We have been called Yankees east of the Hudson so long that the name is as familiar and acceptable as if it had not been originally used in scorn and contempt. It isn't a very pretty word, when you come to think about it. It suggests a lean, lank person, with a turkey-like neck, and a long, ungraceful stride. It fits the popular pictures of Uncle Sam exactly. It does not bring before the mind at first a vision of fashion and culture, but rather of the rugged Americanism of an earlier day, which our transatlantic cousins smiled at and caricatured. Yet a century of usage has gradually wrought a change in the significance of the word. The Yankee is no longer of necessity a tough-looking specimen of humanity, a backwoodsman or a long-haired agriculturist. But it is not alone in New England that the name of Yankee is coming to be regarded as the opposite to a term of reproach. To be sure, "Yankee Doodle" is the one patriotic tune that is still said to be received with doubtful favor in the capitol of the Confederacy, but it will not take long for Richmond to get used to the ancient melody. In an address at Lexington, Ky., the other night, Col. Henry Watterson said: "Some of us are old enough to remember the delusions that once had a certain vogue among the unthinking that one southerner could whip six Yankees. We got bravely over that, and now that we are all Yankees, let it not be imagined that one Yankee can whip six Spaniards." Now that we are all Yankees, that has a patriotic ring. Whatever the reason, it is as Yankees that we are known abroad, rather than as Hoosiers or Crackers or Badgers or Buckeyes or Wolverines. In Europe a Yankee means an American, not necessarily a dweller in Maine or Rhode Island or Connecticut.

Nobody knows where the word came from. Some ingenious philologist has traced it back to "Yangeese," a term said to have been applied to the English by the early American Indians in their crude attempt to pronounce the latter word. It really does not matter any more where it started than where the tune of "Yankee Doodle" originated. Lovers of historical inquiry have attempted to find out where the melody was composed, but all they have been able to discover is that something very much like it is known in many distantly separated countries, having been introduced into popular use at an early period. In 1861 the tune was vigorously hated in the South. A "Yank" was despised above all men, and the legislature of South Carolina forbade the playing of the melody in the state. But times have changed. We are all Yankees now, as Colonel Watterson says. The New England type has impressed itself on the rest of the nation in this respect as in so many others. So the Angles gave their name to England and through it to a world-wide empire, at least in common speech. We do not follow logic or fitness always in such things, though when a term like Yankee survives above all others, it is pretty good proof that it represents a provincial characteristic that deserves, for some innate reason, to survive. And is it not the sturdy New England idea, after all, that has done more than any other to make the nation what it is?—Providence (R. I.) Journal.

LIQUID AIR.

In an article in the June "Cosmopolitan," Mr. Charles E. Triplier, who has succeeded in making liquid air in commercial quantities, outlines some of the possibilities of the wonderful article. With it steel rods may be set on fire and burned with a match; nearly all metals may be made as friable as terra-cotta; cotton and sponge may be detonated as if they were nitroglycerin or gun-cotton; engines may be driven, projectiles may be fired and exploded, air-ships may be propelled, and other wonders worked. As a destroyer, owing to its monstrous expansive force, it can be made a most terrible agent; nevertheless it can be handled with absolute safety, since a shock will not disturb it. It must be detonated with a flame.

As a peaceful commercial agent the liquid can be used for refrigerating cars and storage-rooms, cooling hotels and residences, and lowering the temperature of sick-rooms and hospital wards. Mr. Triplier says that in hotels and other large establishments the same motive power which is used for running the elevators and driving the dynamos can be turned to account for all kinds of refrigerating.

Liquid air is chemically pure. Manifestly it would be impossible for disease germs to live in a temperature of 312 degrees below zero, Fahrenheit, or 299 degrees below the freezing-point; therefore the possibilities of the liquid in medicines and surgery are very

great. "The temperature in hospital wards, even in the tropics," said Mr. Triplier, "could be readily cooled to any degree prescribed by the physician in charge; and by keeping the air about yellow fever patients down to the frost-point the nurses would be perfectly protected against contagion and the recovery of the patient themselves facilitated."

Again the canterizing cold which liquid air is capable of producing might be used in cases of cancer, and probably also in consumption, hay fever and asthma.

FOREIGN-LANGUAGE NEWSPAPERS IN THE UNITED STATES.

There are 2,200 daily and 15,000 weekly papers published in the United States, and twenty-three different languages, other than English, are represented in the newspaper press of this country.

There is only one newspaper published in the Russian language in the United States. There are five newspapers, all weekly, in the Portuguese language. Of these three are in California and two are in Massachusetts, at New Bedford and at Boston. There are four daily newspapers in the Polish language published at Chicago, Buffalo, Milwaukee and Baltimore. Besides these there are seven weekly Polish papers at Chicago, six in Pennsylvania, one at Cleveland, one at Toledo, and three at Detroit. Most of the periodicals in the Spanish language are trade papers, but there is a daily paper in New York, and at Key West is another. There are four Spanish papers in Arizona and twelve in New Mexico.

One Armenian paper is published in the city of New York, and there are two Chinese weekly papers in San Francisco. Five newspapers are published in the Finnish language, two in the mine regions of Michigan, and one each in Illinois, Minnesota and New York. There are two daily Bohemian papers in New York, two at Chicago, and one in Cleveland. There are three Danish papers in Chicago, one in Omaha, one in Racine, Wis., and one in Portland, Ore. The Danish papers are, almost exclusively, designed for circulation among the farmers, and few of them have any city circulation, though there is one Danish paper published in New York.

The indisposition of the French to acquire any other language must account for the large number of French papers published throughout the Union, even where the French population is inconsiderable. There are French daily papers (read chiefly by French Canadians) at Fall River, Lowell and New Bedford, Mass., and one published in Woonsocket, R. I.

Seven newspapers are published in the Slavonic language, and of the four in Welsh three are in Utica and its neighborhood. Thirty Swedish newspapers are published, but no daily papers among the number; eleven Norwegian, seven of them in Minnesota; five Hungarian, one Greek, one Gaelic, one Arabic and eighteen Dutch, nine of which are in Michigan, where the Hollanders are numerous, one only being published in the East, in Patterson, N. J. There are two Italian papers in New York and two in San Francisco. There are four papers published in the Lithuanian language, and twelve, three of them dailies, in the Jewish jargon. German newspapers are published in nearly every state, and German dailies in nearly every large city.—Bookseller and Newsman.

HOW THE MONEY GOES IN WAR-TIME.

Sometimes, when we get to thinking and talking about the glory of going to war for principle, and we are eager to see hostilities commence, we do not realize what a tremendous thing war is. Perhaps these facts about the Civil war will give an idea of how large an undertaking a national conflict with swords and bullets, with fire and blood, is. In the four years of the Civil war the direct expenditure of the national government amounted to \$3,180,000,000, of which \$2,920,000,000 was used directly for war purposes. Seven hundred and thirty million dollars of this was raised by taxation and the rest was obtained by issuing greenbacks and interest-bearing bonds. The interest on this war debt to July 1, 1897, had amounted to \$2,664,000,000. Two billion, one hundred and twenty-seven million dollars has been paid out in pensions since the war. Thus the total direct cost of the war has been \$7,711,000,000. At present the government is paying \$3,500,000 out each week in pensions and in interest on the war debt.

HIRED WEBSTER FOR A WEEK.

Of course Webster was in demand for those who could afford to pay for his services. A sharp Nantucket man is said to have got the better of the great defender of the Constitution in an amusing way, however. He had a small case which was to be tried at Nantucket one week in June, and he posted to Webster's office in great haste. It was a contest with a neighbor over a matter of considerable local interest, and his pride as a litigant was at stake. He told Webster the particulars and asked what he would charge to conduct the case. "Why," said Webster, "you can't afford to hire me. I should have to stay down there the whole week, and my fee would be more than the whole case is

worth. I couldn't go down there for less than \$1,000. I could try every case on the docket as well as one, and it wouldn't cost any more, for one case would take my time for the entire week, anyway." "All right, Mr. Webster," quickly responded the Nantucket. "Here's your \$1,000. You come down, and I'll fix it so you can try every case." Webster was so amused over this proposition that he kept his word. He spent the entire week in Nantucket, and appeared on one side or the other in every case that came up for hearing. The shrewd Nantucker hired Daniel out to all his friends who were in litigation, and received in return about \$1,500, so that he got Webster's services for nothing and made a good profit to boot. If that man was alive in these days of trusts and syndicates, he would probably be at the head of a legal trust, controlling the services of all the big lawyers of the country.—Boston Herald.

SOME ODD SIGNS OF RESPECT.

The people of different races have ways of their own of greeting one another. Some of these ways are very queer to us. For instance: When an Eskimo wishes to show admiration and devotion to another man he pulls the man's nose. The greater his respect the harder he pulls. That being the case, it would seem that a man who placed much value on his proboscis would not strive to become popular. Some tribes of Hindustan show respect by stretching out the arm and placing the tip of the thumb on the other's nose. In South Africa a man turns his back to his superiors. As a general thing, South Sea Islanders sit down when speaking to a person of higher rank than their own—which is just the opposite of our rules of etiquette. A Chinaman's idea of showing respect is to put on his hat where we would take it off. Another thing worth noting is this: That the most common method by which our relatives express their affection when meeting, namely, kissing, is looked upon as sure evidence of heathenism by many people—as native Australians, New Zealanders, Papuans and Eskimos, for instance. They never think of such a thing. Their laws of propriety don't allow it. If a mother over there should kiss her little boy or girl, she would be regarded as a "crank" and excluded from good society.

HAVE YOU SEEN IT?

Every big railroad in this country has a freight-car in its equipment bearing the number 12,345, and yet I'll lay reasonable odds that you may tramp this town over and you will not be able to find a man, I care not how much he has traveled, who has ever seen a car with that number. Among railroad men it is known as the "sequence car," or the "one-two-three-four-five car." Perhaps you never looked for it. I have. For years in my travels I made it a practice to get out whenever the train stopped and take a look at the freight-cars in sight, and I have met drummers who told me they did the same thing, but never a glimpse did I get of that car, nor did I ever run across a man who had been so fortunate. Try it. Go up to the freight-yards in this city or across the river. You will find hundreds of cars, but it's \$10 to a pint of peanuts that car 12,345 will not be among them.—St. Louis Republic.

KATE FIELD'S ADVICE TO A FAIR GRADUATE.

The late Kate Field, the clever writer, once addressed some remarks to girl graduates, which are especially timely at this season. To be sure, they are to be taken with a grain of salt, but they are none the less valuable and suggestive.

"Dear graduates, cooking is the alphabet of your happiness. I do not hesitate to affirm that this republic, great as her necessities are in many directions, needs cooks more than all else. The salvation of the national stomach depends upon them. We are a nation of dyspeptics because we eat the wrong foods, badly cooked, which we drown in ice-water. We are dyspeptics because our women don't know the rudiments of their business, and resign the kitchens into the hands of incompetent servants, of whom they are afraid. Be cooks first, and anything you please afterwards. On you posterity waits."

MODERN LONGEVITY.

In the seventeenth century the average duration of life was only thirteen years; in the eighteenth, twenty; in the present century it is thirty-six. This great increase in the average length of human life is not, however, an indication of an increase in the vigor and vitality of the race, but it is rather due to the fact that cholera, the black plague and other devastating scourges which formerly overspread whole countries at frequent intervals, sometimes several times during a century, have been brought more and more under control by improved public sanitation and quarantine. The real test of the vitality of the race is not the average length of human life, but the proportion of centenarians. The proportion of persons who have attained great age is without doubt at the present time much less than ever before in the history of the world.

THE KOLA PLANT CURES ASTHMA AND HAY-FEVER.



Free. The African Kola Plant is Nature's Positive Cure for Asthma and Hay-fever. In the short time since its discovery this remarkable botanical product has come into universal use in the Hospitals of Europe and America, as an unfailing specific cure for every form of Asthma. Its cures are really marvelous. Rev. J. L. Combs, of Martinsburg, West Virginia, writes to the *New York World*, February 9th, that it cured him of Asthma of thirty years' standing, and Mrs. E. Johnson, of No. 417 Second St., Washington, D. C., testifies that for years she had to sleep propped up in a chair in Hay-fever season, unable to lie down night or day. The Kola Plant cured her at once. Mr. Alfred C. Lewis, editor of the *Farmer's Magazine*, of Washington, D. C., was also cured when he could not lie down for fear of choking, being always worst in Hay-fever season. Many other sufferers give similar testimony, proving it truly a wonderful remedy. As the Kola Plant is a specific constitutional cure for the disease, Hay-fever sufferers should use it before the season of the attacks when practical, so as to give it time to act on the system. If you suffer from Asthma or Hay-fever, in order to prove the power of this new botanical discovery, we will send you one Large Case by mail entirely free. All we request in return is that when cured yourself you will tell your neighbors about it. It costs you absolutely nothing. Send your address to The Kola Importing Co., No. 1161 Broadway, New York City.

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"I have been using CASCARETS for Insomnia, with which I have been afflicted for over twenty years, and I can say that Cascarets have given me more relief than any other remedy I have ever tried. I shall certainly recommend them to my friends as being all they are represented." THOS. GILLARD, Elgin, Ill.



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SOFT EYES - BLINDING EYE WATER

Our Fireside.

REMEMBRANCE.

One night you touched the harp beside the stair,
The harp that, long unfingered and unstrung,
Had silent dreams of hours when it was young,
And those who loved it blithe and frail and fair.
Beneath your careless hand a faint, sweet air
Leaped back to life, and told with tender tongue
Of loves forgot, and soft, the strings among.
The dying music lingered like a prayer.

How long the harp had waited for your hand!
So long my heart lay silent till you came;
How strangely sweet the strain you made to rise
From each! And yet you cannot understand
That now can neither ever be the same—
Ah, love, ah, love, how slow the music dies!
—Guy Wetmore Cary, in Harper's Magazine.

A PINEVILLE CHRONICLE.

WHEN Joe Peterman and Polly May got married" was a standing jest in Pineville.

Joe and Polly lived on adjoining five-acre lots, with only a fence between them. It was not a very high fence, nor a strong one, either, for it was almost rotted down in many places.

It was said that years ago Joe and Polly had been sweethearts, but that they had quarreled about some trifling matter, and that they had not spoken to each other since that day.

Jonesy had just been elected justice of Pineville, and was looking around to see where the fees of the office were to come from.

As there was nothing for him to do in the office, he thought that it was his duty to go outside of it and hunt up something. In debating the question with himself as to what would be most likely to bring him in a fee, his mind, of course, turned to marriages.

"When Joe Peterman and Polly May got married," he repeated to himself, smiling. "Well, it is a duty I owe to this community to end that quarrel of theirs the first thing, and it is a duty I owe to myself to see that they get married as soon afterward as possible."

So Jonesy took a walk out to Joe Peterman's place, and found the latter at home.

"Joe," he said, after some talk on subjects in general; "Joe, I came out to see you on official business."

Joe's eyes flew wide open.

"I haven't been doing anything wrong, have I?" he asked, with trembling voice.

"Well, I don't know," Jonesy replied, cautiously, for he could see that Joe had something on his mind, and thought to draw him out. "You see, Joe, the right and wrong generally depends on the circumstances attending the case."

"That's what I reckoned," said Joe. "You see I saw her coming through the fence, and tried to make her go back."

"And she wouldn't go?"

"No."

"What did you do next?"

"Soon as I spoke she ran up that peach-tree, and went to clawing and scratching the bark."

"She did, eh?"

"She did. Then I got mad, like a fool," said Joe, hanging his head. "I picked up a brickbat and threw it at her, and down she came, kicking her legs like drumsticks."

"Didn't she say anything?" asked Jonesy.

"Who?"

"Why, Polly, of course."

"You didn't think that it was Polly I treated that way, did you?" asked Joe.

"No, hardly. But who was it?"

"It was Polly's cat, Jonesy. I thought that perhaps Polly had seen it, and gone to you and entered a complaint against me."

"No, she hasn't done it yet, Joe, but there is no telling how soon she may do so," said Jonesy. Then he added, confidentially: "If I were you I'd go over and see her and settle the whole thing out of court."

After Jonesy left him Joe stood and scratched his head for some time. The whole thing was a puzzle to him. Had Jonesy known more than he pretended? If so, had Polly told him? And if Polly had, was it at her suggestion that Jonesy had come and told him to go and see her?

"It is ten years since we spoke," he mused, with a sad smile, while a mocking-bird was singing blithely in a tree close by.

But Jonesy walked homeward in quite a different mood. Somehow he felt that his mission had been rather a failure. Still, every once in awhile, a gleam of hope darted upward, and he thought that he could see a fee of office afar off.

As he walked along, musing and dreaming, he found himself suddenly face to face with a woman carrying a huge basket on her arm.

"How do you do, judge?" she cried, cheerily, letting her basket down to the ground. "I was real glad to hear that you was elected."

"Thank you, Polly. I was just thinking about you when you bobbed up," said Jonesy. "Have just been over to see your neighbor, Joe Peterman, and was on my way home with my thoughts full of both of you."

Polly frowned.

"Joe isn't going to have me to court, is he?" she asked.

"Can't say, Polly. I reckon that depends as much on you as on him."

"Well, he had no business coming in through the window like he did," Polly cried. "It served him only right that the window fell down on him like it did and caught him by the leg. Of course, when I grabbed him by the throat to keep him from squalling, and he cut me on the wrist, I was mad enough to kill him. But I kept my temper, and I didn't hurt him any more than I could help," she protested.

"But Joe didn't—" Jonesy began.

"Of course Joe didn't. Joe never would listen to reason," cried Polly.

"But, Polly, Joe—" Jonesy began again.

"That's all right, Jim Jonesy; you have Joe's side of the story, and I am going to tell mine," cried Polly. "After I got him loose I bothered with him all day, and doctored him, and that night, after dark, I carried him in my arms to the fence and set him down on the other side."

"Goodness, Polly, you don't mean to tell me that you carried him in your arms?" Jonesy exclaimed.

"Well, I just did, and I'll swear to it before Joe or anybody."

"I wouldn't do it if I was you," said Jonesy, earnestly. "Why, there isn't a soul in Pineville would believe you could do it."

"Could do what?"

"Why, carry Joe Peterman in your arms, of course."

"Jim Jonesy, you are a fool!" she cried, very red in the face. "It is Joe's old Dominique rooster I have been talking about."

"Why, yes, of course," stammered Jonesy, in confusion, trying to smile. "I was just teasing you, Polly, knowing that you and Joe were such old friends."

"But did Joe say he was going to take me to court?" she asked.

"Not exactly, but I advised him to go and talk the matter over with you. Say, Polly, you two ought to make up. You take my advice," said Jonesy.

That evening Mrs. Jonesy asked her husband how many fees the new office had brought him.

"This is the first day, you know," he smiled faintly. "I have just been setting the wheels in motion to-day, and the fees will come in after awhile."

"Yes; when Joe Peterman and Polly May get married," she said, laughing.

Jonesy had accomplished something that day. He had set Joe and Polly thinking about each other. Joe's long, lantern-jawed face, usually sober and solemn, had relaxed into smiles several times, and once he had actually caught himself humming an old song that had lain forgotten for years within him. On the other hand, Polly's round and rosy face, that was supposed to wear a smile even in sleep, was very thoughtful and sad. And while bending above the steam from the fragrant tea-pot at the supper-table, her eyes seemed filled with unshed tears.

"Poor Joe," she sighed, as she sat down to her lonely meal. "I thought sure that he would get over it and marry some one else, but it seems that he doesn't care any more than I do for anybody, and both of us just persist in being wrong, when only a word from either of us would make things so different."

Just then a cat came in at the open door, and when Polly saw that it limped slightly on one leg she sprang up from the table and caught it in her arms.

"Poor kitty!" she murmured. "I wonder who hurt you? You can't tell, can you?"

"I can," said a manly voice in the doorway, and a moment later Joe entered the room. "Jonesy told me to-day that you intended to sue me for throwing a brickbat at your cat," he said.

Polly eyed her visitor closely for a moment, and, seeing that his eyes were upon the supper-table instead of upon herself, the hard lines that had come around her lips relaxed into a smile.

"Come in, Joe," she said, gently. "Will you take a cup of tea with me?"

"Then you ain't mad because I crippled your cat?"

"Joe," she cried, trying to look severe, "will you take a cup of tea with me?"

"Yes. You ain't mad, Polly?"

Polly did not reply, but busied herself refilling the tea-pot and making room for him at the table.

When Joe was seated at the table Polly sat down opposite to him and watched him in silence for several minutes.

"So Jim Jonesy has been telling you that I was about to take you to court for crippling my cat, has he?" she said, at last. "I met him when he came from your house, and he hinted that you might have me prosecuted because your old Dominique rooster came over here and got himself crippled the other day."

"I never said no such thing, Polly," cried Joe.

"Nor did I," said Polly.

"I never mentioned rooster to him."

"And I never said cat."

"I wonder how he found out?" said Joe.

"I guess our consciences gave it away. When I think of it now, he never said rooster to me until I had told him all about it myself," said Polly, smiling.

"I remember now that it was the same with

me and the cat," said Joe. "I know I wanted to tell you how sorry I was, and it was all I could think of when Jonesy came to see me."

"I am sorry, too, Joe," said Polly. "and I hope you won't think that I done it on purpose."

Somehow the summer dusk gathered around them, and neither seemed to notice it as they talked on across the table between them. After awhile, however, Polly rose and went to the open door, where Joe followed her.

"Say, Polly," he said, taking her unresisting hand. "I have been sorry for everything all these years; won't you say that you forgive me?"

Polly looked into his face.

"I have been sorry, too, Joe. Oh, so sorry!"

Just then Polly's cat, purring softly, rubbed herself against Joe's leg, and at the same moment old Dominique crowed lustily on his own side of the fence.

Now, in Pineville, a good many things are dated from the time "when Joe Peterman and Polly May got married."—St. Louis Globe-Democrat.

ANCESTRAL TREES.

The misfortune of this country in not possessing a titled class has long been a source of grief to many sensitive people. In particular has it weighted upon the soul of the American woman. The American man has felt, as a general thing, that so long as his bank account was all right he could worry along without a title, but the American woman has yearned for coronets and coats-of-arms and refused to be comforted because they were not hers. The idea upon which our government is founded, that one man is as good as another, if not a little better, doesn't go with her. Of course, many women have acquired noble ancestors by right of purchase, but every one who yearns for position has not the wherewithal to buy. Lords and dukes come high, and there is a constantly advancing market even in counts and barons. In this dilemma the inventive genius of the Yankee came to the front and devised the alphabetical societies, and American women become daughters of various societies that are a kind of understudy aristocracy. A fashionable woman who spends her time tracing her ancestry back to some revolutionary soldier or colonial dame would probably throw a fit if her revered ancestors should walk in on her. The chances are that they were quite common people according to her standard now, and she would hustle them up the back stairs before the servants could see them. But they are safely out of the way, and it all goes now and she is happy in her make-believe superiority. Recently a certain smart set in the East have gone the revolutionary ladies one better. These exclusive dames call themselves "Daughters of the Kings," and are on the still hunt for some king to whom they can trace their ancestry back. They pack the libraries in this country and infest the colleges of heraldry in Europe. It doesn't matter who the king was. A half a king will do, if it's all that's left in the deck. To women who are just starting in the absorbing occupation of collecting ancestors it may be interesting to know that it is the easiest thing in the world to make a showing that should entitle them to become daughters of anything they like. A family-tree is just dead easy when you know how to make it. At the first remove you have two ancestors—father and mother. At the next step you have four—two grandfathers and two grandmothers. Each of these has a father and mother, so you have four great-grandfathers and four great-grandmothers. Each of these again had two parents, so that at the fourth generation back you have sixteen ancestors, at the fifth you have thirty-two, at the sixth you have sixty-four and at the seventh you have one hundred and twenty-eight. As you go a little further rise to the thousands, tens of thousands and hundreds of thousands, so that if all your direct ancestors for twenty generations he added together they amount to over 1,000,000, and if you go back another twenty degrees they total 1,000,000,000,000.—New Orleans Picayune.

SUGAR-EATING NATIONS.

The sugar crop of the world amounts in a normal year to about 8,000,000 tons, of which the larger part, about 4,500,000 tons, comes from beets and the balance, 3,500,000 tons, from sugar-cane. Of the latter the largest proportion comes from the West Indies and a large amount from the island of Java, says the New York "Sun."

Among the countries producing beet-sugar, Germany comes first, with about one third of the world's crop; then Austria, with about as much; and then France, Russia and Belgium and Holland together, with substantially the same quantity.

In respect of the production of beet-sugar in the United States, there has been a vast increase since the establishment of the McKinley tariff in 1890. The year previous the American product was 2,800 tons. Two years later it was 12,000 tons. Four years later it was 20,000 tons. Last year it was 43,000 tons, and the product is on the increase. The

McKinley tariff established between July 1, 1891 and July 1, 1895, a bounty to be paid by the United States government to sugar-producers, with a view of stimulating the industry and compensating those engaged in it for the changes made in the duty upon imported sugar.

Among scientists the opinion has been general that a moderate amount of sugar, like a moderate amount of salt, should enter into the dietary of the people of each nation; but it is only when the figures of the consumption of sugar are examined that it is seen that the quantity consumed varies radically, and it is a curious fact that in those countries in which the maritime spirit—the spirit of navigation, commerce, travel and colonization—is strong there is a very considerable consumption of sugar per capita; whereas in those countries in which these qualities are not predominant among the inhabitants the consumption is smaller. In England, first among the maritime nations of the world, the consumption of sugar is eighty-six pounds a year for each inhabitant. In Denmark it is forty-five; in Holland, thirty-one; in France, thirty, and in Norway and Sweden, twenty-five; whereas in Russia it is only ten; in Italy, seven; in Turkey, seven; in Greece, six, and in Serbia, four. The consumption of sugar seems to have very little connection with or relation to the production of sugar; for in Austria, the sugar product of which is large, the average consumption is only nineteen pounds, while in Switzerland, in which there is no production to speak of, it is forty-four. And another curious phase of the matter is that there is a great disparity in the consumption of sugar in the two tea-drinking countries, England and Russia. The large amount of sugar consumed in France is attributed in part to the fact that the French confectioners and candy-makers, and more especially those doing business in the city of Paris, use in their trade enormous quantities of sugar in a year, adding abnormally to the average consumption of sugar in the French republic.

A WOMAN HELPED TO PERFECT THE COTTON-GIN.

The invention of the cotton-gin had more influence upon the political history of the United States than any other single invention. It made the raising of cotton especially profitable, and that in turn made slavery profitable in the South, and every American knows how the institution of slavery figures in the history of our country.

The inventor of the cotton-gin was Eli Whitney, but it appears that a woman helped to perfect the machine. The incident is described in the "Century."

"Mr. Whitney had been invited to come to the home of this lady at Dungeness, where there was an abundance of cotton. A room on the fifth floor was fitted up for the young inventor. 'One morning,' says the writer in the 'Century,' 'he descended headlong into the drawing-room, where a number of guests were assembled, and excitedly exclaimed, 'The victory is mine!' In deep sympathy with him the guests and hostess went with him to his workshop. Whitney set his model in motion. For a few moments the miniature saws revolved without hindrance, and the separation of the seed from the cotton-wool was successfully accomplished; but after a little the saws clogged with lint, the wheel stopped, and poor Whitney was in despair."

"Here's what you need!" exclaimed my mother, in her clear, decisive way; and she instantly seized a clothes-brush lying on the mantel, and held it firmly to the teeth of the saws. Again the drum revolved, and instantly the saws were cleaned of the lint, and the last requirement of the great invention was satisfied."

"Madam," said Whitney, overcome with emotion, and speaking with the exaggeration of gratitude, 'you have perfected my invention.'"

HOW ARTIFICIAL ICE IS MADE.

In describing a new ice-making plant just completed in Philadelphia, the "Manufacturer" says:

"The ammonia-ice machine is the one in most general use; in fact, it finds exclusive application in this city. This liquefied ammonia is allowed to expand in coils of pipe which are placed in tanks filled with brine. The temperature of the brine is thus reduced to a point below the freezing-point of water, that is, to fourteen or eighteen degrees, Fahrenheit. In this refrigerated brine are placed galvanized iron tanks, having the shape of the large cakes of ice which one is accustomed to see in the wagons that pass through our city streets. After a period of forty-eight to fifty hours this can of water is converted into solid ice. The can is hoisted out of the brine, warmed with hot water, which allows the cake to slip out upon a chute that runs into the storage-rooms. The gaseous ammonia in the pipes can be used over and over again, a large compression-engine being a part of the plant which reduces the expense of the process. From this description it should be plain that there can be no taint of ammonia to give a taste to the ice."

A NEW USE FOR STRATEGISTS—A FABLE.

The Pooh-Bah of Abecedaria was carrying on war, embarrassed by a terrible inebus of unpreparedness which he could not advertise in large posters on the bill-boards for fear of encouraging the enemy. The impetuous Abecedarians chafed because victory did not perch on their banners daily in time for the morning papers, and began to complain that the Pooh-Bah had no policy, and to offer a few policies.

The annoyed Pooh-Bah put on his best spectacles, and thought he saw an opportunity—an unusually large one. He announced that all strategic plans which might be thought of by any one would be gladly considered, and that for any not already proved futile, and the wisdom of which no other suggestion questioned, a prize of \$1,000 would be given. The only condition was that the communications should be sent by registered mail, and the accompanying models, etc., patented.

Impatience gave way to elastic hope. Men could scarce tread the earth. Their faces wore deep, mysterious looks. Several hundred thousand such looks bespoke a vast fund of confidence in the speedy close of the war. When the clock ticked the auspicious moment, it sounded as loud as the pin the teacher drops when all the school have become silent. Then it began to rain registered envelopes. The public buildings bulged out with documents, packages, parcels, vials, tubes, casks, etc., containing war maps, cameras, gases, liquids, solids, automatic serpents, treatises on hypnotism, plans of campaigns borrowed from Julius Caesar, in fact, almost everything but typewriters. They came from captains of militia, electricians, fakirs, chemists, chess-players, machinists, ministers, college professors, office-boys, cranks, disappointed politicians, and not a few from newspaper correspondents, the censoring of whose war dispatches had brought them midnight revelations of the way the war ought to be carried on.

The Abecedarians stood on their tiptoes while the clerical force examined and tabulated the deluge of suggestions. Many might have been observed to become suddenly lavish in their expenditures, and to go about softly whispering to themselves: "Glory! One thousand dollars!" In brief, the report was as follows:

Number of suggestions not antagonized by others . . . 0.

Then the Abecedarian who had been unable to endge out of his brain a plan for speedily ending the war laughed, and said that it refunded him of the time the people asked the minister to pray for rain. But with the millions of revenue derived from the sale of stamps and for patents the war was soon brought to a close.—Golden Rule.

GOOSE-QUILL PENS AND HOME-MADE INK.

The boys and girls who get a new lead-pencil every time one is lost, and who use steel pens by the dozen, do not understand the difficulties experienced by the boys and girls in the schools of early New England times. Alice Morse Earle, in the "Chautauquan," describes the pens and ink used in colonial times:

"In older times only one kind of pen was used—that cut from a goose-quill with the feathers left on the handle. The selection and manufacture of these goose-quill pens was a matter of considerable care in the beginning, and of constant watchfulness and 'mending' till the pen was worn out. One of the indispensable qualities of a colonial schoolmaster was that he be a good pen-maker and pen-mender.

"Ink was not bought in convenient liquid form as at present; each family, each person, was an ink-manufacturer for his own individual consumption. The favorite method of ink-making was through the purchase and dissolving of ink-powder. In remote districts of Vermont, Maine and Massachusetts, home-made ink, feeble and pale, was made by steeping the bark of swamp-maple in water, boiling the concoction till thick, and diluting it with copperas."

ALASKA CAVE-DWELLERS.

A race of cave-dwellers live on a small island off the Alaskan coast. It is King's island, in Behring sea, due south of Cape Prince of Wales. There is only one village there, and this has a population of two hundred. Dr. Sheldon Jackson, the United States agent of education in Alaska, says that it is one of the most remarkable settlements in America; yet few people know of its existence.

King's island is about a mile in length, and is a mass of basalt rock which rises perpendicularly out of the sea to a height of seven hundred to a thousand feet. At the south side this is cleft in two by a deep ravine, which is filled by a huge, permanent snow-bank. High up on the west side of the ravine is the village of Onkiyak, which consists of about forty dwellers, partly hollowed out of the cliff and built up outside with stone walls. Across the top of these walls are laid large driftwood poles; over these are placed hides, and over these hides grass and dirt. The houses are entered by a tunnel, which runs

along underneath, sometimes for a distance of fifteen feet, and ends under a hole, eighteen inches in diameter, in the floor of the room above. This is the front door of the establishment. The tunnel is so low that it is necessary to stoop and often crawl the entire length of it.

In summer these houses generally become too damp to live in. The people then erect another dwelling on top; this is a tent of walrus-hide, which is stretched over a wooden frame and guyed to the rocks by ropes to prevent its being blown off into the sea. These tents allow of a room ten or fifteen feet square, entered by means of an oval hole in the side, about two feet above the floor. These platforms are often fifteen or twenty feet above the winter dwelling below.

At the other side of the deep ravine, at the base of the cliff, is a huge cavern, into which the sea dashes. At the back of this is a large bank of perpetual snow. The cave-dwellers use this as a storehouse. They dig recesses in the snow and store their provisions, which freeze solid and keep the year round, for the temperature in the snow never rises above thirty-two degrees.

IMITATION WOOD.

The use of wood fiber or pulp in the shape of molding is now made peculiarly available for some of the artistic processes in furniture decoration. For this purpose the required patterns are designed, and hollow molds made after them—that is, the wood fiber, while in a soft, gelatinous condition, is forced into these molds and the moisture then slowly driven out by compressed air, while the meshes of a fine netting hold the pulp in place. Thus the articles can be readily turned out in single pieces, and are completed without further manipulation except to trim and finish off the surface. So peculiarly adapted is this method to the art in question that delicate scrolls, flowers and all conventional patterns carved out of wood for furniture and cabinets are thus satisfactorily and rapidly produced. With a little glue these ornamental pieces are fixed securely in the desired position, and almost perfectly resemble the finest specimens of carved woodwork.—Upholsterer.

ECONOMY AND DURABILITY.

Economy and durability in painting and paint materials is the boon property-owners are looking for. With most articles mere cheapness is another name for worthlessness. In paint materials the best and purest are actually the cheapest in first cost, cheapest in the amount of surface they will cover, and cheapest when the question of durability is considered. The reason for this is not hard to find. Pure white lead and pure linseed-oil are articles of such fierce competition, beginning with the manufacturer and extending to the jobbing trade and retail dealers through whom they reach the consumer and property-owner, that the final cost to the last purchaser is but a trifle above the first cost to the manufacturer.

The average cost of the best ready-mixed paint to the consumer is \$1.25 to \$1.50 per gallon, which will cover 200 to 250 square feet, two coats. The cost of a gallon of pure white lead and pure linseed-oil paint, tinted with pure colors and mixed by the purchaser, is about \$1.20 per gallon, and it will cover 400 to 425 square feet, two coats. In this comparison we have only considered the best grades of ready-mixed paint which contain pure oil.

The sure way for the property-owner who wishes economy and durability in his painting is to buy pure linseed-oil and pure white lead under brands which are known to be pure and reliable, or order them through an honest painter. Particularly avoid so-called combination leads, which generally contain a large proportion of cheap and worthless material.

The only known materials which will combine with linseed-oil and form a waterproof and durable paint are those with a lead base. Prominent among these is white lead, whose valuable properties were recognized for centuries before the scientific cause of its excellence was discovered. It combines most readily with oil, works freely under the brush, when properly applied will outwear any other pigment; gallon for gallon will cover twice the surface, and when repainting is required forms the best possible base for subsequent coats. There are two kinds on the market, that made by the Old Dutch Process, which has been the standard paint for centuries, and requires upwards of four months in preparation. It is a very heavy white powder, dense and impervious to light; hence its great covering properties and ability to hide the surface to which it is applied. The other is made by the Quick Process in a few days, not differing greatly in chemical analyses, but much lighter, bulk for bulk, than the Old Dutch Process, besides being more or less crystalline and lacking opacity and covering properties, therefore requiring three coats to do the work of two coats of the Old Dutch Process lead, rendering fifty per cent more labor necessary.

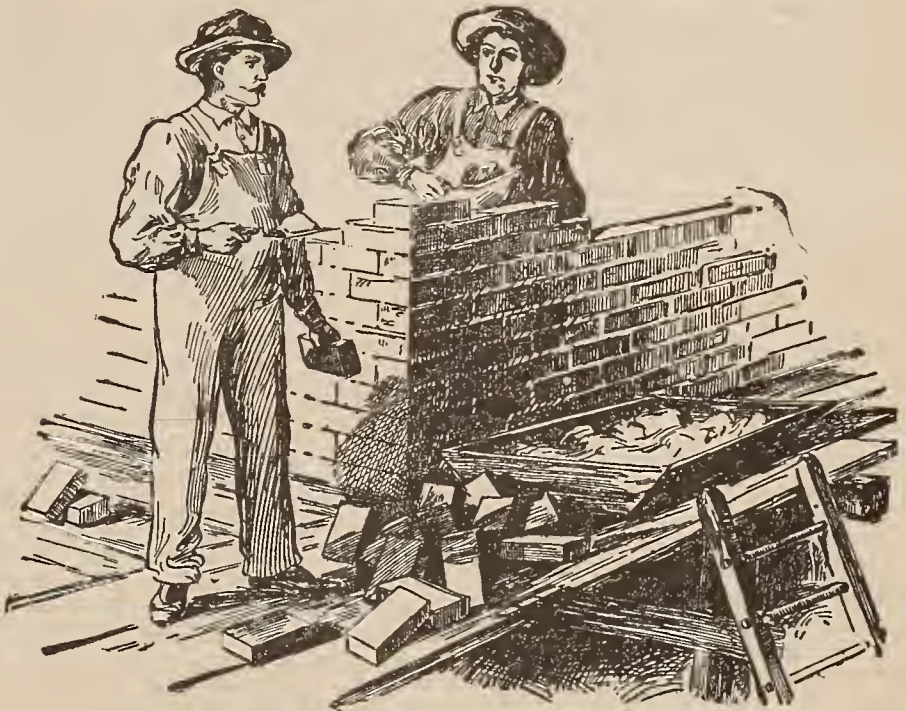
When, as a property-owner, you decide to paint your house and wish to practise economy and obtain durability, what kind of paint will you use?



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seem to grow on the woodwork
about the house. They come easily and
they stick, too—unless you get rid of them with

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A new style packet containing TEN RIPANS TABULES in a paper carton (without glass) is now for sale at some drug stores—for FIVE CENTS. This low-priced sort is intended for the poor and the economical. One dozen of the five-cent cartons (120 tabules) can be had by mail by sending forty-eight cents to the RIPANS CHEMICAL COMPANY, No. 10 Spruce Street, New York—or a single carton (TEN TABULES) will be sent for five cents.

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Our Household.

GO FIND THE SUNSHINE.

BY ELLA HOUGHTON.

When the heart's attuned to sadness
Look about the earth for gladness;
You will very surely find it if you do.
When the heart has grown a-weary,
And the world seems dark and dreary,
God plants a sunshine star for me and you.

It is given us to cherish;
We were never meant to perish
Underneath a weight of anguish and despair.
High above gleams bright the star,
Beckoning on, though from afar;
And we've all of Heaven, though not of
earth to gain.

HOME TOPICS.

STEAMED RASPBERRY PUDDING.—Make a batter of one cupful of sweet milk, one tablespoonful of butter, one egg and one and one half cupfuls of flour, into which has been sifted two teaspoonfuls of baking-powder. Butter some cups, set them in a steamer, over boiling water, and drop a little of the batter into each cup, then a layer of berries, until the cups are two thirds full, having the top layer of batter. Put the cover on the steamer, and let them cook thirty minutes. Serve with cream and sugar. The batter may be made of sour cream and soda, omitting the butter and baking-powder, and any kind of fruit may be used. This makes a good dessert when you have a "picked-up" dinner, cold meat, and other things.

TO COOK A BEEF HEART.—Soak the heart two or three hours in cold water; then trim, take out all tendons, and wash clean. Make a dressing of one cupful of bread-crumbs, one tablespoonful of melted butter, one fourth of a tablespoonful of powdered sage-leaves and a pinch each of salt and black pepper. Mix these ingredients, fill the cavity in the heart, tie with a string, wrap in a piece of muslin, and put the heart into a pot, with boiling water to nearly cover. Let it simmer slowly two or three hours until it is tender, adding one teaspoonful of salt when about half done. Take the heart up, remove the cloth, and put it into a hot oven long enough to brown it. This is nice served either cold or hot.

THE LITTLE NEW BABY.—Maybe it is your first baby, and of course you are proud of it, and you think there was never another such a baby. All the grandmas, aunts, sisters, cousins and friends have only to see this wonderful baby to agree with you in this opinion; hence, baby is on exhibition at all times of the day and night, whenever these admiring friends see fit to call. Each guest expects to not only see the baby, but to hold it, toss it about, talk to it, and try in every way to make baby "notice." Just think for a moment what a strain this must be on the nervous strength of an infant. How would you like it yourself to be frequently snatched up in the arms of one person or another, tossed about and talked to in an excited tone of voice in some unintelligible jargon. Babies are subjected to this kind of treatment day after day, commencing often when they are a few days old. Is it any wonder that we are a nervous people? A little thought would convince any one that a baby should be kept quiet; should not be subjected to noise or excitement of any kind or to bright light during the first month of its life. For the quieter it can be kept for the first year the better.

A noted specialist has said that one cause of small, squinting eyes, of weak eyes and many defects of vision is caused by exposing the eyes of infants to bright light during the first few weeks of their lives. The little bodies are very tender, the bones soft and easily injured. How carefully, then, should infants be handled. Don't listen to those who advise "toughening" the baby by exposing it to cold, bathing in cold water, etc. A little baby needs a great deal of heat. Have its bath not merely tepid, but warm, and shield it from any draft of cool air. A lack of heat, after injudicious feeding, is the most frequent cause of colic. If baby cries and you know it is not hungry, cover the abdomen and wrap the little feet in a hot flannel, give it a teaspoonful of hot water, then lay it on its breast across your lap, or hold it against your breast and shoulder, supporting its back and head with your hands, and it will soon stop crying and go to sleep.

Keep baby warm and free from excitement, feed him regularly at intervals of two hours the first eight or ten weeks, lengthening the time gradually; give half a teaspoonful of hot water after each meal, and at any time when he appears hungry between meals, and he will not be apt to suffer with the colic or any other of the various ailments which are induced by indigestion.

MAIDA McL.

HOME AIDS TO GRACE.

FIRST PAPER.

It is said that to the shop windows must be credited the fact that town women bear themselves so much more gracefully than their country sisters. The shop window allows us to see ourselves, when passing along the street, pretty much as others see us, and often quite insensibly we strive to remedy the defects in carriage that are thus made so conspicuous.

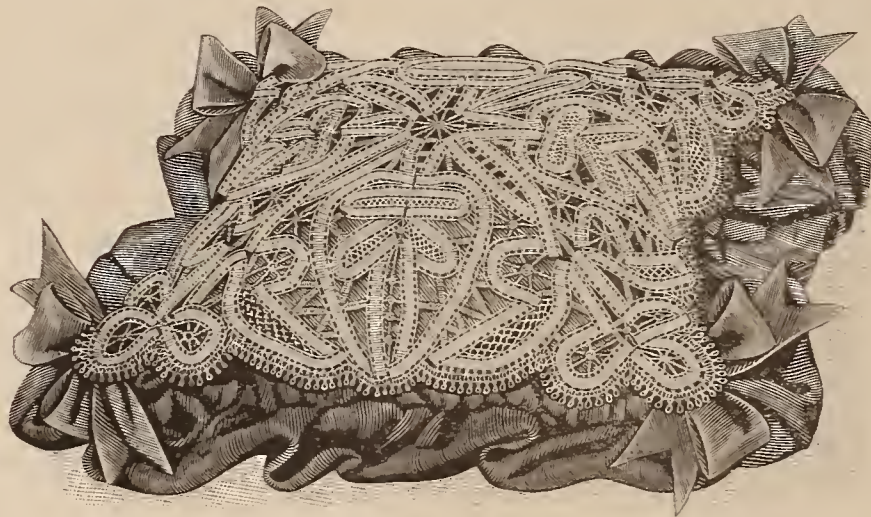
No matter how fine a figure or how lovely a face one may have, she will be awkward, unattractive and ill at ease until she has obtained such control of her muscles as will enable her to guide them constantly and unconsciously.

To obtain the best results such training should be begun in childhood, but the woman of sixty years need not consider herself too old to attempt them. If she have patience, perseverance and common sense she will not regret having made the effort.

The following exercises are designed to help women who cannot join gymnasium classes or give much time at home to the improvement of their personal appearance.

EXERCISE I.

Let the head fall forward so that the chin may rest on the chest; slowly roll it toward the right shoulder without moving the body; let it fall back as far as it will, rolling it toward the left shoulder, and to its first position, with chin resting on the chest. Roll it in this way three times;



then beginning as at first, roll it toward the left shoulder, or in an opposite direction, three times. Increase the number of times each day as you can without becoming too lame, or, better still, take this exercise more and more frequently each day until the required results are obtained.

It will remove the double chin which disfigures so many women of middle age, and will cure nervous headaches, especially if brought on by overstudy, worry or close application to any mental work.

EXERCISE II.

Undress yourself and stand before the glass until you have learned how to do this exercise properly. Stand with the weight of the body on the balls of the feet, then bending the knee as slightly as possible, throw the abdomen as far forward as you can. Next let the right hip become as prominent as possible, then the rump, and finally the left hip. When this is done properly it forms what is known as the "hip roll," and should, like the head roll, be reversed. When properly done there is no jerkiness of motion and very little movement of any other part of the body. The knees must, of course, be slightly bent, alternately, but the upper part of the body remains almost stationary. The arms should be allowed to hang easily and naturally, but should not move with the hips. This is a difficult exercise, but a very valuable one, for if persisted in it will be found almost a sure cure for indigestion and constipation. It is given here, however, principally because it tends to reduce the size of the hips and abdomen. It also strengthens muscles that will be

brought into use when learning to carry the body properly.

EXERCISE III.

Stand where you can place the left hand on the bedpost for support. Hold the other hand at right angles from the body, and try to kick the palm with the right foot ten times without touching that foot to the floor. Turn and repeat the exercise with the left hand and foot. This should be practised until you can kick the hand fifteen or one hundred times without stopping, care being taken to begin moderately.

This exercise is designed to increase the circulation, limber the muscles and cure obesity. When women suffer from female complaints caused by obesity, as so many women do without knowing it, they will be surprised at the relief this exercise will bring them in the course of a few weeks. Such women should, however, be exceedingly careful not to overtax themselves at the beginning. Women who are troubled with cold feet and consequent headache will find this exercise of the greatest value. There is not the least reason why any one should go to bed with cold feet when three minutes devoted to this exercise will get them in a glow.

EXERCISE IV.

Obesity means unused muscles. It is a foe to beauty, attractiveness or comfort, yet it seems to be becoming more and more common. For these reasons several exercises designed to cure it are given in this article. The following is considered especially good:

Lie flat on your back on the floor, extend your hand at right angles from the body, and kick it as many times as you can without losing your breath. Exercise the feet alternately, then both together. Rest a few minutes, then draw the knees up to the chin, and suddenly straighten the legs with a decided jerk. Then try kicking the hand with one foot, while practising this last-described exercise with the other.

The writer reduced the size of her hips and abdomen one and one half inches in seven weeks by practising this exercise barely five minutes a day on going to bed. It exercises muscles that walking or cycling do not seem to touch at all.

EXERCISE V.

After a few weeks of conscientious practice of the above exercises even they whose muscles have grown stiff from inaction should have obtained such control of their bodies as to enable them to take the proper standing and walking positions.

EUPHEMIA WOODS.

LACE-COVERED CUSHION.

In continuation of the lace article I give another design which can be worked up from the illustration. Use colors to harmonize with the rest of the toilet.

B. K.

FANCY CROCHETED TOILET-MAT.

This can be made of fancy, shaded or plain crochet-cotton, or the more expensive crochet-silk, or even of split zephyr or Saxony, being pretty and dainty whatever the material used.

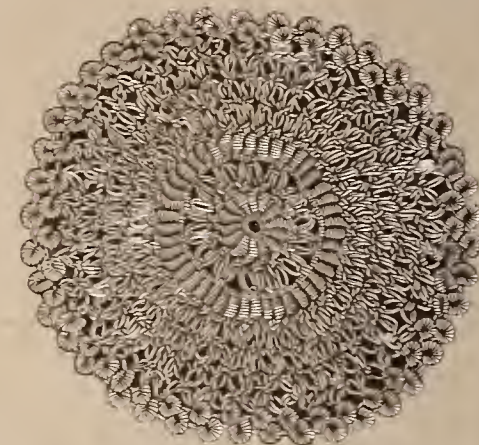
The stitches used are as follows:

Knot-stitch.—Make a chain-stitch, and * draw out the loop on the needle three eighths of an inch longer or shorter, if preferred. Put the thread over the needle and draw through the loop; now put your needle downward between the loop first made and the last thread that was drawn through; thread over needle and draw through the

loop; then thread over again and draw through both stitches on the needle. All succeeding knot-stitches are made like this from *.

Roll-stitch.—Put your thread over the needle eight times; insert the needle in your work, thread over, and pull through the coil of eight stitches; thread over, draw through one loop on needle. The roll, when complete, is straight, with a string the length of the roll on its left side. There is a right and wrong side to this stitch. Upon the number of times the thread is put over the needle the size of the roll depends.

Roll picot-stitch.—* chain three (one tight and two ordinary); thread over twenty



ty times; insert the needle in your work, thread over and pull through the coil of twenty stitches, drawing the thread so tight that both ends of the coil meet and a little circle is formed; thread over and draw through the stitch on the needle.

Chain five; join.

First round.—Chain four; fourteen rolls in ring formed; join in chain of four.

Second round.—* two knot-stitches; fasten with single crochet between first and second rolls; repeat from * to end; draw stitch on needle up to the top of first knot-stitch, and fasten with single crochet.

Third round.—* chain two; fasten with single crochet at top of next picot; repeat to end.

Fourth round.—Chain three; * two rolls over chain of two; one roll in single crochet; repeat from * to end, joining first roll.

Fifth round.—* two knot-stitches; fasten with single crochet between first and second rolls; repeat to end; draw stitch on needle up to top of first knot, and fasten with single crochet.

Sixth round.—* two knot-stitches; fasten with single crochet in conjunction between first and second knots of previous round; repeat from * to end. Draw stitches on needle up to top, etc., as in last round.

Seventh and eighth rounds.—Like the sixth round.

Ninth round.—Chain three; * one roll picot, fastening with single crochet in top conjunction of next two knot-stitches; chain one tight and two ordinary; repeat from * to end, fastening with single crochet after last roll picot to first chain of three.

Tenth round.—Chain three; * roll picot, fastening with single crochet in middle chain of chain of three; chain one tight and three ordinary; repeat from * to end, and fasten off.

As shown in illustration, very pretty combinations of color may be formed by using two kinds of worsted, changing alternately at the end of the second, fifth, seventh, eighth and ninth rounds, or otherwise, if preferred.

EMMA LOUISE HAUCK ROWE.

[We correct a mistake in our last issue, which used this illustration with directions for another article.—Ed.]

THE AMERICAN FLAG.

When Freedom from her mountain height
Unfurled her standard to the air,
She tore the azure robe of night,
And set the stars of glory there.

—Joseph R. Drake.

The Maine disaster and the resulting war with Spain has kindled anew the fire of patriotism in the hearts of the American people. There never was so great a demand for histories of America as at present. The United States flag is of especial interest, and everything pertaining to its origin, history and preservation is being eagerly sought and read.

For centuries nations have used flags and banners of various colors or combinations of colors to distinguish themselves from each other. The first emblems used by the American colonies were those of

the respective nations by whom they were colonized. In the English colonies, from 1651 to 1707, the cross of St. George was in general use. In 1707 the Union flag designed by King James I. of England and Scotland became the authorized flag of Great Britain and her colonies.

While still loving the mother-country and her flag there was a tendency toward the adoption of various colonial emblems. The favorite emblem of Massachusetts was a tree of some kind, and one of the earliest flags in use in New England was the pine-tree flag, though some doubt is expressed as to the tree having been originally a pine-tree. "The tree on the New England flag no more resembles a pine-tree than a cabbage," says Drake, in his history of Boston.

As the colonists began to feel the oppression of England, they expressed the intention of resistance by the emblems on the various flags. From 1775 to 1777 as many as fifteen different flags were carried in the colonies, on two of which were the thirteen red and white stripes, and on one of which was a blue union with white stripes. A rattlesnake coiled ready to strike, with the words, "Don't Tread on Me," was also a prominent feature of several of these flags.

Red, white and blue are the colors most used on these flags, the red signifying valor, or daring, the white, purity, and the blue, justice. That the red, white and blue and also the stars and stripes of our national emblem were derived from these flags seems very probable.

The following is a quotation from a song printed in the Massachusetts "Spy," for March 10, 1774, and is probably the first suggestion of stars as a national emblem for America:

"A ray of bright glory now beams from afar.
The American ensign now sparkles a star
Which shall shortly flame wide through the skies."

The first flag on which were the thirteen stripes was presented by Captain Abraham Markoe in 1775 to the Philadelphia troop of Light Horse.

General Washington while on his way to take command of the army at Cambridge was escorted by this troop to New York. Several months later he raised the striped Union flag at Cambridge.

Some authorities favor the idea that the design of the United States flag was taken from the coat-of-arms of Washington, on which were both. There is also a tradition that the marine committee originated the combination. Both may be true, the committee making use of the idea suggested by Washington's coat-of-arms. Be that as it may, official records show that on June 14, 1777, the American Congress "Resolved, that the flag of the thirteen united states be thirteen stripes, alternate red and white; that the union be thirteen stars, white on a blue field, representing a new constellation."

The various descendants of Mrs. Ross are the authorities cited for the story of the making of the first flag from the original design. General Washington, with Colonel Ross and Robert Morris, called upon Mrs. Ross as a committee from Congress, and asked her to make the flag. She suggested the five instead of the six pointed star because the former was prettier. On our coins the stars are six-pointed, according to the English custom. On the flag the stars are five-pointed, according to the European custom in heraldry.

Canby, a grandson of Mrs. Ross, claims that the first flag was made by Mrs. Ross before the Declaration of Independence, and therefore before the adoption of the design by Congress.

The flag-staff is often surmounted by a gilt eagle. The eagle is noted for its long and lofty flight and its piercing vision, and being considered the noblest of birds is a fit emblem typifying the national character of the United States.

In 1776 Paul Jones hoisted the first flag ever raised on an American man-of-war. This flag was of yellow silk bearing the picture of a pine-tree and a coiled rattlesnake, with the words, "Don't Tread On Me."

Love for the national emblem has been shown by the gallant action of both men and women in successful efforts to prevent our flag being hauled down from prominent positions by its enemies. The story of Barbara Fritche is familiar to all. Four years after Anderson evacuated Fort Sumter he returned to raise the same flag over the fort that he had carried away with him. During the Civil war in the

United States the Confederate flag floated over a part of the country, but with the restoration of the succeeding states to the Union, the stars and stripes again waved over a united nation. After Vermont and Kentucky had been admitted into the Union as states, two stars and also two stripes were, in 1795, added to the flag. From this time until 1818 no change was made, though the following states had been taken into the Union: In 1796, Tennessee; 1803, Ohio; 1812, Louisiana; 1816, Indiana, and in 1817, Mississippi. During Monroe's administration the two added stripes were dropped by an action of Congress, and the same bill provided that on the Fourth of July after its admission the new states should be represented on the flag by an additional star, the position of which was to be determined by the war department. Since 1818 new states and new stars have been added to the Union in the following order: In 1818, Illinois; 1819, Alabama; 1820, Maine; 1821, Missouri; 1836, Arkansas; 1837, Michigan; 1845, Florida and Texas; 1846, Iowa; 1848, Wisconsin; 1850, California; 1858, Minnesota; 1859, Oregon; 1861, Kansas; 1863, West Virginia; 1864, Nevada; 1867, Nebraska; 1876, Colorado; 1890, North Dakota, South Dakota, Montana, Washington and Idaho; 1891, Wyoming, and in 1896, Utah.

There is still room for more stars, which, as the states they represent become one with the United States, should add brighter glory to the Union.

The stars and stripes now wave over forty-six states, containing a population of about seventy millions.

May each heart throb with loyal love for the country which the flag so beautifully represents, and every hand be raised to protect and maintain her honor unsullied.

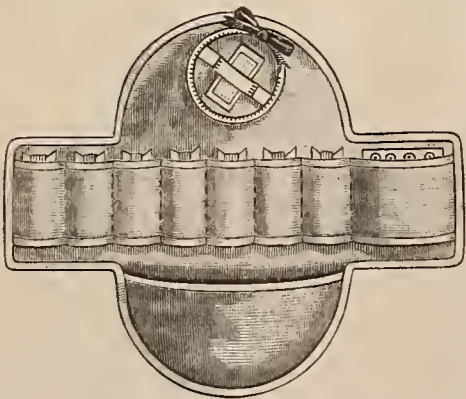
LUCY C.

RED, WHITE AND BLUE.

Everything now comes in the red, white and blue, and as we must keep up with the times I send you a few of the latest suggestions which Dame Fancy has brought forth. And to keep up with the times takes much planning, as there are so few things that we can give to our boys in blue.

Take half a yard of denim and cut as you would for a medicine-case, adding more pockets; bind with tape, outlining the words "Soldier's Companion," and work some simple design in red or put Old Glory on the lap. Inclose a sheet of batting, some small bottles of necessary drugs, small pair of scissors, some court-plaster, a few narrow bandages, and one or two old soft silk handkerchiefs.

A neat frame for the "Girl I Left Behind Me," or "The Boy Who Has Gone to the Front," is to take a piece of pasteboard the size of the picture, cut a hole in it the size of the picture you wish to display, and glue over the pasteboard a silk flag; when dry cut on the flag from the center to the four corners with a pen-knife, and turning over glue on the back.

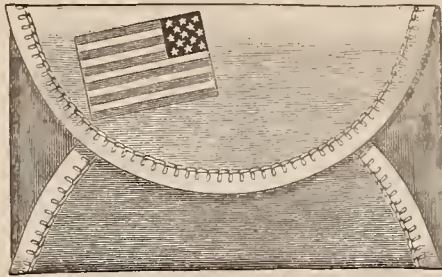


A thin layer of batting placed between the flag and pasteboard gives a nice effect. Now place the picture next to the frame and cover with heavy paper; it can either be hung up or made to stand by gluing on the back a piece of pasteboard.

Another novel idea is to take inch-wide red, white and blue satin ribbons; herring-bone them together, turning each side and the top up one half inch, mitering each corner and fringing the bottom; slip in the picture, take one yard of narrow satin ribbon and fasten to the frame through the picture, which will hold it firmly.

The stores are also filled with pretty trifles, a few of which I will mention: There are belts of all sorts, some with a row of military buttons, some with the red, white and blue leather, others the gold with regulation United States shield for clasps, and others with the eagle in different attitudes around the belt. There are shirt-waist

sets to match the belts; also hat-pins, stationery, visiting-cards, kerchiefs, pin-cushions, neckties, collars, garters and badges galore in every shape and form. The dear girls who are anxious to be patriotic can wear almost a uniform—consisting of the snug buttoned jacket, with its rows of brass buttons up the front and on the sleeves, some even adding shoulder-straps. The regular soft or fatigue hat is worn, while smaller girls don the cap. Some wear a blue skirt, red waist and white tie, and vice versa. Chatelaines of the stripes hang from many sides, the red of the artillery being preferable. Even fancy work has been permeated with the spirit, and we have pillows of every known design kindred to the war spirit. These are made mostly on heavy satin finished with cotton. Both the figures and the flags are done in water-colors and heavy cord in the red and blue, some in the three colors together; others with ruffles of silk,



either the one plain color or the three combined. Several flags tied together making puff corners are effective.

And at all the social functions it is now the custom to give one or more corners over to Columbia's glorious colors. Flags, hunting, and so on, are used to decorate couches, tables, mantels, chairs, chandeliers, and so on, while crape-paper plays an important part in the trimmings. Even the ices are served in the American colors, and the "Dewey March," "The Manila Ferenade" and the late war songs are seen behind a bower of flags.

A pretty luncheon I saw was in red, white and blue. The table-cloth was white, while wide red and blue satin ribbons from the four corners to the center formed a star, a crystal candelabrum with a red shade being the middle of the star. Red and white roses, with here and there a tiny bunch of blue forget-me-nots, added to this effect; of course, one can vary this to suit themselves. The ices can be in colors and forms to suit.

REX.

SUMMER SKIRTS.

Among the summer novelties come the gingham skirts. There can be one with every dress, for with six yards of gingham and a sewing-machine wonders can be wrought. They must fit perfectly over the hips, and it is well to put the gingham into warm water, and when partly dry press out with a medium hot iron; this prevents it from shrinking when made up. You can put on a knee-flounce, but there are endless ways to finish them. If a bright plaid, then use bright red sateen for piping, and a coarse yellow lace; if no lace is to be used, then some of the colored embroideries or narrow-boned ruffles will give a good effect.

Silkoline slips worn under organdies will change the costume many times by having the different colors. These can have tucked ruffles of bias strips, with pipings and narrow lace at either side; some have five bands. Nothing looks so well or shows the gentility of the wearer as dainty underwear. A pale pink batiste worn over a dark chambray skirt with four ruffles of embroidery is quite new.

A lavender India silk dress had a slip of rich royal purple sateen; this had a knee-ruffle and seven tiny ruffles, and was trimmed in a narrow black lace. All sorts of braids one may have on hand will come into play for these pretty summer skirts. White skirts are always dainty and in good taste when one wants to be well dressed. They come this season with a creation of lace tucks, insertion and ribbons.

BELLE KING.

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Our Household.

A CHAPTER ON CANNING.

II.

I HAVE often thought of the saying of an old lady, "We kill ourselves in the summer to keep ourselves in the winter." I admit it was some work for me to can fruit, make preserves, jams and jellies, concoct pickles and catchups, and yet what a comfort it was to have a cellar well stored with these things for use in the winter. Fruit is very plentiful here in this Grand river valley, and housekeepers become experts in the art of preserving it.

If one begins rightly the work need not be so tiring. Much of the "stove work" can be done in the early morning or after night. It is not necessary to be stewing and brewing over the preserving-kettle in the heat of the day, if one exercises a little foresight and judgment. When everything is all ready the actual work of canning does not take long, and everything should be ready before the fire is built and the fruit put on to heat.

Porcelain-lined kettles or granite pans should be used, those with lips and bales for pouring being the most convenient. A thin, sharp knife made of the best of steel is necessary for paring; then you will need silver spoons, small and large, and for some things a large-mouthed funnel for filling the jars. Be sure to have plenty of holders and tea-towels at hand. The utmost care and cleanliness are necessary to perfect success.

The fruit should be the best, neither too ripe nor too green. It may sometimes be small, however, if perfect in every other way.

It has been said that fruit put up with beet-sugar will not keep well, but such has not been my experience.

The jars and covers should be scalded just before using, no matter how carefully they were cleansed when put away.

It never pays to use old rubbers, but it sometimes happens in small places that there is a rubber famine for a day or two, and the fruit must be canned. Glazed cotton batting cut to fit the old rubber will greatly aid in keeping the jar air-tight; or a white cord wound around the bottle will aid a defective rubber.

Many people say that berries are tasteless when canned, and strong when preserved, but that is the fault of the canner and not of the fruit. Whatever berry you are "working up," select firm ones, put them into a colander, move slowly up and down in a pan of cold water, then lift out and drain carefully. The old-fashioned way of canning (which I am inclined to think a very good one) is to make a syrup, not nearly so sweet as for preserves, and carefully drop the berries in; boil a few minutes, and "spoon" into the jars. I am never troubled with their breaking to pieces. Another method (and I must say the fruit is delightfully fresh when opened in the winter if it has been put up in this manner) is: After the berries have been drained fill the jars with them, pouring cold water over them until the jar is full. Place the lids on top, but do not screw them down. A little hay (alfalfa I use out here), or excelsior might be used in a city, having been previously placed in the bottom of a wash-boiler, the jars are set on it and water poured into the boiler till it reaches the neck of the jars. The boiler is then covered and the water slowly brought to the boiling-point. Then lift out each jar and screw the lid on tightly. Be very particular that they be set out of the draft to cool. The jars should be inverted, so that if there be any jar that is not air-tight the "sizzling" which will result will disclose the fact.

When preserving small fruits or berries, they should be taken from the kettle with a skimmer and put in the jar till almost full; then the syrup should be poured in till the jar is completely filled, and the lid screwed on tightly. It is an excellent plan to run a silver knife around the inside, up and down the jar, in order to liberate any imprisoned bubbles of air before fastening the lids tightly.

Various methods are taken to prevent the bottles from breaking. Some place them in a shallow pan of water on the back of the stove. Thus they will be kept hot, and whenever the fruit is ready the preserving-kettle is placed alongside the pan, the funnel put in the jar and the jar filled. A silver nut-pick is excellent for removing fruits like peaches and pears.

Another method to prevent breaking is

to put the jars into a kettle of hot water, rolling it around and around till it is uniformly heated; then place on a large plate or in a small pan on which a damp towel has been placed. When the jar is filled, remove as before, screw on top, and invert out of the draft. Care must be taken that the weight of one piece be not allowed to spoil the shape of another; careful arrangement will avoid this. As glass contracts when cold, the lids will require an extra tightening when the fruit is thoroughly cool. Then wipe each jar carefully, and place in a cool, dark closet. Many wrap each jar with brown paper to further exclude the light.

"Berry mash" is another method of canning without cooking. To one quart of fruit add one pound of granulated sugar. Mash together, taking great care that every berry is mashed. Fill the jars very full with this mixture, crowding it in firmly. Screw the caps on as tightly as possible, and set away in a dark place. If properly mashed fruit in this way will keep for years. A mixture of white and red currants put up in this manner is almost as delicious, eaten with meats, as is the celebrated delicious guava jelly I was so fond of while in India.

Fruit after it has been peeled should be covered with a damp cloth or placed immediately in cold water to prevent discoloring.

Authorities differ whether it is better to can fruit with or without sugar. My mother thought they retained their freshness to a greater degree if not sweetened; many say the same, but I confess I prefer to add a scant cupful of sugar to each jar of fruit (of course, I use pound for pound when preserving).

CANNED STRAWBERRIES.—Allow two and one half basketfuls of berries to a quart jar. Dissolve in two tablespoonfuls of water half a pound of granulated sugar. Let this boil until it begins to crystallize; very carefully drop in the fruit, and after allowing it to boil up once fill the jars with the fruit in the manner described, sealing and caring for them in the usual manner. These strawberries will be whole and of a delicious flavor.

STRAWBERRY JAM.—Boil the berries for twenty minutes, carefully skimming the scum as it rises. Add the sugar, allowing two thirds as much sugar as fruit. Now boil slowly for another half hour, stirring constantly, then pour in jelly-glasses or jars, and seal up when cold.

STRAWBERRY JELLY.—A package of gelatin will be needed, as these berries do not contain enough peptone of themselves to congeal unaided. After having mashed two quarts of strawberries to a pulp, strain through coarse muslin. Then mix the juice of a lemon with two cupfuls of sugar. Having soaked the package of gelatin in two cupfuls of cold water for at least an hour, mix berries, lemon, sugar and gelatin well together, and pour over all one quart of boiling water. Stir until all is dissolved, then put in jelly-glasses, and you will soon have beautifully clear, solid jelly.

STRAWBERRY PRESERVES.—After picking over the berries carefully, lay aside the firmest and nicest berries, and discard the overripe ones as well as those too green. Some there will be that are too good to be discarded, yet not "XX" after all. These should be mashed, then squeezed through a cheese-cloth, then boiled for ten minutes (some boil before they are put through the cloth). While this juice is boiling, and from which all scum has been removed, and to which the sugar has been added, pound for pound, carefully drop in the large berries; let all boil together for an instant, skim them out into the jars until nearly full, then boil the syrup longer till it is quite thick. Again put the berries back into the preserving-kettle, boil up again, once more fill the jars, and seal. Other berries may be treated after these same recipes.

CANNED BLUEBERRIES AND HUCKLEBERRIES.—Stew the berries in their own juice, adding only a little water at first to keep them from sticking. If you desire to sweeten them use one part sugar to four parts fruit. When all are well cooked turn them into hot jars, and seal.

CANNED RASPBERRIES.—Use the greatest care in handling to prevent mashing, and use only the largest, firmest grades. Allow half a pound of sugar to two pounds of fruit. Pour just enough water over the sugar to dissolve it and make a clear syrup. Then put in the berries, and for two minutes boil rapidly. Carefully put into the jars, and seal.



There's nothing in Ivory Soap but soap, good, pure vegetable oil soap. There's nothing to make the linens streaky, no alkali to injure the finest textures. The lather forms quickly and copiously, and wash-day is a pleasure instead of a drudgery. Try it in the next wash. The price places it within reach of every one. Look out for imitations.

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PRESERVED RASPBERRIES.—Again use only the firmest and best berries. To a pound of the fruit allow one pound of the best granulated sugar. Make a syrup of the sugar, skimming often; then when the syrup will "rope" carefully drop in the berries, and when they have thoroughly boiled empty all together in the jar. The thick syrup will preserve the form.

CANNED BLACKBERRIES.—For every quart of the berries allow one cupful of sugar and one half cupful of water. When the syrup is boiling nicely put in enough berries to cover the surface, and cook quite slowly for ten minutes; take them out in a bowl and add others to the syrup; continue until there are enough to fill the jar. Then pour all back into the kettle, let them boil a few seconds, when they will be ready to put into jars.

BLACKBERRY JAM.—For each pound of fruit three fourths of a pound of sugar will be required. Before the berries are put into the kettle mash enough to obtain sufficient juice to keep the bottom ones from sticking. Heat gradually, and when all are hot mash the rest finely. Cook twenty-five minutes before adding the sugar, then cook eight minutes longer; put into wide-mouthed pint jars, and seal.

GOOSEBERRY JAM.—To a scant pound of gooseberries allow a generous pound of sugar. Barely cover the fruit with water when put on to cook. After they are well boiled add sugar, and cook slowly for twenty-five minutes, when it will be ready to be put in tumblers or jars.

ELLA BAUTLETT SIMMONS.

FASHIONABLE PERFUMES.

Violet and wild clover are just now in use the most, both as to sachet and the toilet-table. In bygone days each lady had her favorite, and she was in reality known by the perfume; not so now. What was ever sweeter than the old-time rose-jar of our grandmothers' day, the rose and lavender leaves to be scattered through dainty ribbons and linens?

The long-lived jockey club still remains with us and does not seem to have lost much of its old-time popularity. Still, the violet seems to have the preference above all others, so a prominent dealer tells me, as he sells a third more of violet than all the others together. Among the violet the mountain and wood varieties hold the lead.

A nice idea is to have on hand a dozen or so of small linen bags which may be

filled with one's chosen perfumes and tacked in different places about the dress waists and skirts; in warm weather they are especially fine, and costing but a trifle they are in the reach of all. Tack one on the belt of dress-skirt, one in the neck-band just below the collar and one about midway of the blouse front. Orris-root will be found especially pleasant for the hot days; the bags must be very tiny, and made out of linen lawn, as that does not take up so much room. They can also be concealed in summer neckwear. Wild rose and sweet clover give a dainty odor when one is rushing back and forth in a heated game of tennis, golf or kindred outdoor sports.

In skirts of muslin or silk one or two can be tacked on fresh each week. When skirts are to be laundered, make a long sachet of the perfume and fasten on the frames on which you dry the skirts, or in the closet where you hang jackets, and so on. The cotton batting can now be purchased all ready and prepared with the favorite odor; this is, however, very expensive.

A tack or pad can be made out of cheese-cloth or silk; the silk for winter and the cheese-cloth for summer. Take cotton batting the size you wish to make the case, and tack over it, and then knot here and there with baby-ribbon or with crewels. If crewels are used, then buttonhole the edges with the same; if ribbon is used, then tack in ribbon quilling all around the edges. Place two strips across the end to hold the kerchiefs in place. Your clothes will then always have a delicate odor about them. E. B. R.

WISCONSIN FARM LANDS.

There is a rush now to the choice unoccupied farm lands along the line of the Chicago, Milwaukee & St. Paul Railway in Central Wisconsin.

Good quarter sections can now be had for \$7.00 and upwards per acre, one third cash, balance on long time at current rate of interest.

For further particulars address W. E. Powell, General Immigration Agent, 410 Old Colony Building, Chicago, Ill.

"I inclose order and money for 300 Peerless Atlas, each with a year's subscription for WOMAN'S HOME COMPANION. I expect to get many more orders here. Have just enlisted two young men as helpers, and believe we can do wonderful work here in northern Ohio."—C. A. Haymaker, Elyria, Ohio.

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Any TWO PATTERNS, and FARM AND FIRESIDE one year, for 35 CENTS.

These patterns retail in fashion bazaars and stores for twenty-five to forty cents each, but in order to increase the demand for our paper among strangers, and to make it more valuable than ever to our old friends, we offer them to the lady readers of our papers for the low price of only 10 Cents Each.

Full descriptions and directions—as the number of yards of material required, the number and names of the different pieces in the pattern, how to cut and fit and put the garment together—are sent with each pattern, with a picture of the garment to go by. These patterns are complete in every particular, there

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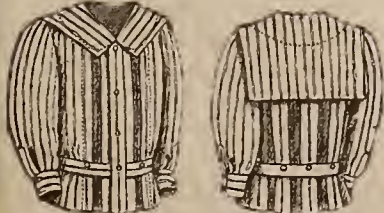
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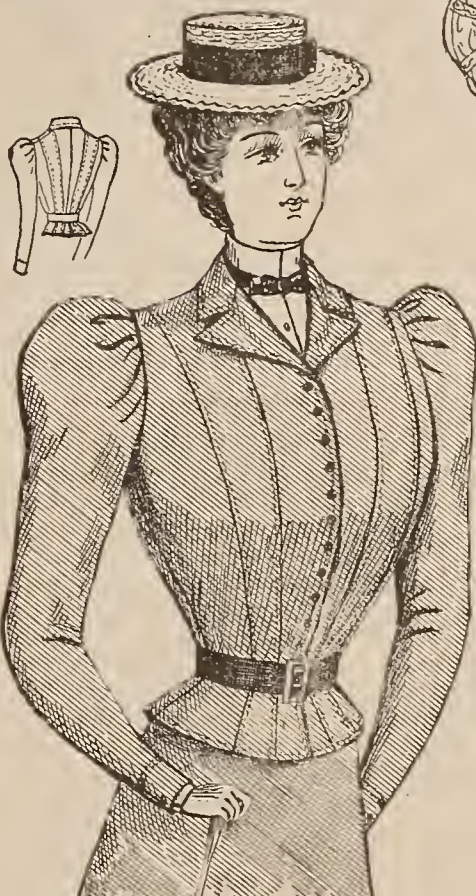
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Sizes, 32, 34, 36, 38 and 40 in. bust.



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Sizes, 32, 34, 36, 38 and 40 inches bust.



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Sizes, 6, 8, 10, 12 and 14 years.

A VACATION TRIP To the Seashore at Reduced Rates



CHOICE OF TEN POPULAR RESORTS

A Delightful Midsummer Outing by the Sea

One of the ideal vacation trips is a visit to the seashore. Persons who may have participated in that enjoyment are annually anxious to repeat the experience. To those who may not have been that fortunate, a dip in the ocean, a stroll along the sandy coast, and the myriads of pleasures at the disposal of the summer idler by the sea, have a peculiar charm. The largely patronized general excursions inaugurated last season by the Pennsylvania Lines from principal points in Ohio and Indiana brought out that fact. The announcement that the Pennsylvania System will this summer again run special low rate excursions to the seashore will no doubt be welcome information to persons who may wish to spend highly enjoyable vacations along the ocean.

Wednesday, August 10th, has been fixed as the date for this season's general excursions to the seashore over the Pennsylvania Lines. On that date round trip tickets to ten of the most popular summer havens along the Atlantic Coast will be sold. Passengers may take their choice of Atlantic City, Cape May, Anglesea, Avalon, Holly Beach, Ocean City, Sea Isle City, Wildwood, New Jersey, Rehoboth, Del., or Ocean City, Md. Tickets will be sold from principal ticket stations at exceptional low fare as indicated in the following table of rates:

FROM STATIONS ON THE PAN HANDLE ROUTE.

| Round Trip. FROM. | Round Trip. FROM. |
|------------------------------|----------------------------|
| \$14.00 Cincinnati.....O. | \$15.00 Franklin.....Ind. |
| 14.00 Loveland....." | 15.00 Indianapolis....." |
| 14.00 Morrow....." | 15.00 Greenfield....." |
| 14.00 Waynesville....." | 15.00 Knightstown....." |
| 14.00 Eaton....." | 15.00 Dunreith....." |
| 14.00 Camden....." | 15.00 Shelbyville....." |
| 14.00 Hamilton....." | 15.00 Nashville....." |
| 14.00 Reading....." | 14.50 Cambridge City....." |
| 14.00 West Manchester....." | 14.00 Richmond....." |
| 13.50 Dayton....." | 15.00 Logansport....." |
| 13.50 Springfield....." | 15.00 Bunker Hill....." |
| 13.50 Yellow Springs....." | 15.00 Converse....." |
| 13.50 Xenia....." | 15.00 Marion....." |
| 13.50 South Charleston....." | 15.00 Gas City....." |
| 13.50 London....." | 14.50 Hartford....." |
| 13.00 Columbus....." | 14.25 Dunkirk....." |
| 13.00 Newark....." | 14.25 Red Key....." |
| 12.50 Troy....." | 14.00 Ridgeville....." |
| 12.50 Coshocton....." | 14.00 Union City....." |
| 12.50 Newcomerstown....." | 15.00 Kokomo....." |
| 12.50 Uhrichsville....." | 15.00 Elwood....." |
| 12.50 Dennison....." | 14.50 Anderson....." |
| 12.50 Bowerston....." | 14.50 Middletown....." |
| 12.50 Seio....." | 14.50 New Castle....." |
| 12.50 Cadiz....." | 14.50 Hagerstown....." |
| 12.50 Cadiz Jet....." | 14.00 Greenville.....O. |
| 15.00 Louisville.....Ky. | 14.00 Bradford Jet....." |
| 15.00 New Albany.....Ind. | 13.75 Covington....." |
| 15.00 Jeffersonville....." | 13.50 Piqua....." |
| 15.00 Seymour....." | 13.50 St. Paris....." |
| 15.00 Madison....." | 13.50 Urbana....." |
| 15.00 North Vernon....." | 13.50 Milford Centre....." |
| 15.00 Columbus....." | 13.50 Plain City....." |
| 15.00 Edinburg....." | |

FROM STATIONS ON THE FORT WAYNE ROUTE.

| Round Trip. FROM. | Round Trip. FROM. |
|-----------------------------|------------------------------|
| \$14.50 Fort Wayne.....Ind. | \$13.75 Smithville.....O. |
| 14.50 Monroeville....." | 13.50 Orville....." |
| 14.50 Convoys.....O. | 13.50 Massillon....." |
| 14.50 Van Wert....." | 13.50 Canton....." |
| 14.50 Middlepoint....." | 13.50 Louisville....." |
| 14.50 Delphos....." | 13.50 Cleveland....." |
| 14.25 Elida....." | 13.50 Hudson....." |
| 14.00 Lima....." | 13.50 Ravenna....." |
| 14.00 Ada....." | 13.00 Alliance....." |
| 14.00 Dunkirk....." | 13.00 Salem....." |
| 14.00 Forest....." | 13.00 Leetonia....." |
| 14.00 Kirby....." | 13.00 Columbiana....." |
| 14.00 Upper Sandusky....." | 13.00 East Palestine....." |
| 14.00 Nevada....." | 13.00 New Philadelphia....." |
| 14.00 Bucyrus....." | 13.00 Canal Dover....." |
| 14.00 Crestline....." | 13.00 Waynesburg....." |
| 14.50 Toledo....." | 13.00 Malvern....." |
| 14.50 Woodville....." | 13.00 Bayard....." |
| 14.00 Tiffin....." | 13.00 Kenschington....." |
| 14.00 Bloomville....." | 13.00 Salineville....." |
| 14.00 New Washington....." | 13.50 Niles....." |
| 14.00 Mansfield....." | 13.50 Girard....." |
| 14.00 Lucas....." | 13.50 Youngstown....." |
| 14.00 Londonville....." | 13.50 Lowell....." |
| 11.00 Shreve....." | 13.50 New Castle.....Pa. |
| 14.00 Wooster....." | |

Excursion tickets will be good returning eleven days including date of sale. Train arrangements will enable excursionists to go through without any discomfort. Sleeping Cars running through Philadelphia to Atlantic City without change via Delaware River Bridge Route will be included in the through car arrangements for these excursions, which will offer exceptional facilities for a delightful midsummer outing by the sea. The date on which they will be run is perhaps the dullest season of the year, when absence from home and business cares will be convenient.

For special information about time of trains and other details, and for descriptive matter of the ten resorts to which tickets will be sold, list of hotels at each, etc., please apply to Pennsylvania Line Ticket Agent at stations mentioned, or address F. VAN DUSEN, C. A. G. P. Agt., Pittsburg, Pa.

Our Sunday Afternoon.

GOD'S PROVIDENCE.

"God's providence is mine inheritance!" I read
The quaint old legend on a rainy day,
When gray and thick the clouds hung overhead,
And mists were folding close about my way.

God's providence? Then wherefore should I fear.

My Father's love is roof and inn for me,
Forever, since my Father holds me dear,
His goodness shall my guard and shelter be.

Another, heaven-endowed with worldly gain,
May count his wealth and gaze his acres o'er,
May reap his harvest-fields on hill and plain,
And heap in barn and bin his fragrant store.

And I may own no inch of tith or foot
Of fallow in this great wide earth I tread;
Yet am I rich, and need no pledge to boot,
Save God's clear stars above my lifted head.

God's providence is mine inheritance. Come loss

Or change or grief, whatsoever God send,
All things shall work for blessing, and the cross

Be gladly borne if shared with Christ, my friend.

—Margaret E. Sangster, in Christian Intelligencer.

PROFITABLE READING.

MELIA E. BARR, whose annual income from her writings is about \$20,000, in recounting the influences upon her life from early reading, says that certain writings were "the mind-builders," and the schools and textbooks and teachers gave the finishing touches. "The glorious company of men and women from the sacred world" influenced her most. She made the acquaintance of her author, mingled with the created characters of his imagination, or communed with his noblest ideas and ideals. "The men and women whom I knew first and best," she says, "were those of the Hebrew world. Sitting before the nursery fire, while the snow fell softly and ceaselessly, and all the mountains round were white and the streets of the little English town choked with drifts, I could see the camels and the caravans of the Ishmaelitic merchants passing through the hot, sandy desert. I could see Hagar weeping under the palm, and the waters of the Red sea standing up like a wall; Miriam clashing the timbrels, and Deborah singing under the oak, and Ruth gleaning in the wheat-fields of Bethlehem. These were as real to me as the women of my own home."

Frances E. Willard's noble mother, who wielded such an influence over her children, especially when schools were not accessible and she was the teacher, once said: "I want my children's brains to be full of the best thoughts that great minds have had in all ages; I want stored away in your little heads the story of what the world was doing before you came—who were its poets, its painters and philosophers, its inventors and law-givers." This wide range of mental vision imparted in her youth gave the gifted daughter a wonderful world to live in, and a companionship and ideals, which, when coupled with her splendid original endowment, made her "the most widely known and best beloved woman in America." We waste too much valuable time in reading mere trash—that which does not make us stronger mentally or morally.—Normal Instructor.

FOOD AND SLEEP.

Food may be used to promote sleep. This is most beneficial to nervous persons whose digestion is fairly good and who have not eaten a very hearty or indigestible late meal. What kind of food it shall be does not matter very much, provided it is nutritious and easily digested. Some prefer one kind and some another. One man prefers a plate of raw oysters, with some crackers and butter, another a glass of milk or a dry biscuit. One eminent minister thought he had made a great discovery when he found that by eating a pint of roasted peanuts before going to bed he could sleep soundly. Others have found that a glass of hot milk or any of the many excellent substitutes for milk answer just as well. The food seems to take away from the brain the blood which keeps it in a state of activity to perform the act of digestion. Those who eat hearty, indigestible late dinners will not be benefited by food just before bedtime, nor those whose

digestive organs are in a very abnormal state and the stomach foul. The old notion that one should go to bed with an empty stomach seems to have been proved for some persons at least bad, good as it may be for others. By a little carefulness and experimenting one may find what food taken at bedtime agrees and what does not, and if the practice is good or bad for himself or not. To some extent it is true that what is good for one may not agree with another.—Journal of Hygiene.

DEVELOPING BETTER THAN MOLDING.

Every individual has the first right to his individuality. Few persons would dispute this, and yet few act as though they believed it. They talked about molding the character of a child, which means to press him into some man-made form, and so force upon him a fictitious individuality—a man made counterfeit of the God made real. But to give a child his first right is to aid him to develop, to grow. It is to put him in full possession of his own God-given powers. A Chinese lady's foot is a molded character. It is neither useful to walk with nor beautiful to look at. But the muscles of the barefoot boy are developing his feet by their free use into members that can do the sort of service that feet were made for. The difference between molding and developing is the difference between a live thing and a dead thing, between a car-wheel and a pair of legs, a machine and a man. This is a vital thing to have in mind when we talk of teaching and training. We must respect individuality.—Sunday-school Times.

THE MILLIONAIRE AND HIS CLERK.

Girard, the infidel millionaire of Philadelphia, one Saturday ordered all his clerks to come on the morrow to his wharf and unload a newly arrived ship. One young man replied, quietly:

"Mr. Girard, I can't work on Sunday."

"You know our rules?"

"Yes, I know. I have a mother to support, but I can't work on Sundays."

"Well, step up to the desk and the cashier will settle with you."

For three weeks the young man could find no work, but one day a banker came to Girard to ask if he could recommend a man for cashier in a new bank. This discharged young man was at once named as a suitable person.

"But," said the banker, "you dismissed him."

"Yes, because he would not work on Sundays. A man who would lose his place for conscience's sake would make a trustworthy cashier."

And he was appointed.—Pearl of Days.

IN THE EARLY MORNING

In the early morning, as soon as you awake to consciousness, remember that you are in the very presence chamber of God, who has been watching beside you through the long dark hours; look up into his face, and thank him. Consecrate to him those first few moments before you leave your couch. Look on toward the coming day, through the golden haze of the light that streams from the angel of his presence. You can forecast very largely what your difficulties are likely to be, the quarters from which you may be attacked, the burdens that may need carrying. Take care not to view any of these apart from God. Be sure that he will be between you and them, as the ship is between the traveler and the ocean, be it fair or stormy.—Rev. F. B. Meyer, in Saved and Kept.

FRIENDSHIP NOT A BUSINESS AGREEMENT.

Friendship is to be valued for what there is in it, not for what can be gotten out of it. When two people appreciate each other because each has found the other convenient to have around, they are not friends, they are simply acquaintances with a business understanding. To seek friendship for its utility is as futile as to seek the end of a rainbow for its bag of gold. A true friend is always useful in the highest sense; but we should beware of thinking of our friends as brother members of a mutual benefit association, with its periodical demands and threats of suspension for non-payment of dues.—Religious Telescope.

DRUNKENNESS IS A DISEASE.

Will send free Book of Parliaments how to cure "Drunkenness or the Liquor Habit" with or without the knowledge of the patient. Address Dr. J. W. Haines, No. 439 Race Street, Cincinnati, Ohio.

FREE ONE TRIAL FREE BOTTLE

THIS OFFER ALMOST SURPASSES BELIEF.

An External Tonic Applied to the Skin.
Beautifies It as By Magic.

THE DISCOVERY OF THE AGE

A WOMAN WAS THE INVENTOR.



Many preparations intended to beautify the complexion have failed, since they do not produce a tonic effect on the skin. Because the Misses Bell's Complexion Tonic has such an effect, it succeeds where all mere cosmetics invariably fail. This great remedy, discovered by the Misses Bell, the eminent complexion specialists, of No. 78 Fifth Avenue, New York City, carries off all impurities which the blood forces to the surface of the body. It is exhilarating and vitalizing wherever applied. Freckles, pimples, blackheads, moth patches, wrinkles, liver spots, roughness, oiliness and eruptions disappear, and the skin becomes soft and rosy as a baby's.

The Misses Bell will this month give to all who call at their parlors, a free trial bottle of their Complexion Tonic. Those who live at a distance may have a free bottle by sending 25 cents in silver or stamps to cover the cost of packing and delivering. The price of this wonderful tonic is One Dollar a bottle.

The Misses Bell's new book, "Secrets of Beauty," is sent free. It tells how a woman can gain and keep a good complexion. Special chapters on the care of the hair, how to preserve its color and luster, even to an advanced age. Also how to get rid of superfluous hair on the neck and arms without injury to the skin. This valuable book will be mailed to any address on request. Correspondence cordially solicited. Address

THE MISSES BELL,
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SPRING and SUMMER, 1898, FASHIONS

Send for our new catalogue of Cut Paper Patterns for the Spring and Summer, 1898, styles. We send it free on request.

By using these patterns any woman can become her own dressmaker, and can make all the clothing for the family. Address a postal-card to

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HYPNOTISM

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Smiles.

HOW MANY CATS HAVE WE?

We have a large catalpa-tree
The caterpillars seek.
A dread stroke of catalysis
Left grandpa very weak.
He feeds on nice Catawba grapes,
A cataclysm takes,
With catachriston he is rubbed
Each morning when he wakes.
Our maid has catalepsy,
And cataplasms needs.
The baby caterwauls for tea
Made from the catnip-weeds.
Our hired man, who has catarrh,
Brings catfish from the lake.
We heard a catamont scream out,
Our cattle made a break
And ran straight to the cataract,
Whose waters swell the sea,
And headlong plunged, alas! it was
A sad catastrophe.
We've catgut-strings to our guitar,
Cattails arranged in groups;
We've cat gold in our oil-stoves,
And catsup in our soups.
A cat-o'-nine tails, uncle says,
He'll from his vessel bring.
A cat's eye cater-cornered
Is set in sister's ring.
A catalogue of cats is here,
Perhaps about a score;
You'll make a cat's paw out of me,
If you catechize for more.
A category I'd be in
That hardly could be worse,
If you should dub each random line
A catalectic verse.

—Belle R. Harrison.

CAKES AND DELEGATES.

THERE was a ring at the telephone, and Mrs. Upjohn responded.
"Yes, this is I," she said. "What is it—yes, we're all well, but—yes?"
"—?"
"Entertainments? Convention? Certainly. Glad of it. Certainly. When is the—yes?"
"—?"
"Two jelly cakes? Of course. When—all right—shall be glad to—yes."
"—?"
"Not at all. Good-by."
The next evening two sharp-featured, resolute-looking women presented themselves at Mrs. Upjohn's dwelling.
"We are the two delegates to the equal rights convention that have been assigned to you for entertainment," they said.
"I don't quite understand," she replied.
"Delegates to the—"
"Yes; don't you remember? Mrs. Highup arranged it with you by telephone a day or two ago."
It was even so. "Delegates" had sounded through the telephone like "jelly cakes."
But Mrs. Upjohn fed those same jelly cakes to those same delegates.—Chicago Tribune.

HOW PULLMAN WAS NAMED.

The town of Pullman was not ostensibly named after the late Mr. Pullman himself. The story is that W. W. Beman, the architect of the town, being justly proud of his work, went to the proprietor and asked that it be named "Beman."
"Um'm," said the magnate. "Fact is, I had thought of calling the place 'Pullman,' from the man who built it and paid for it. However," Mr. Pullman added, as he observed a look of disappointment on the architect's face, "I am not particular. Now, what do you say to a compromise? Suppose we take the first syllable of my name, 'Pull,' and the second syllable of your name, 'man.' There, you have it, 'Pull,' 'man'—Pullman. You see, that combines your idea with mine."
Mr. Pullman's suggestion prevailed, and the name, it seems, was a compromise, though it is not reported that architect Beman was greatly pleased thereby.

A NEW PRODIGAL-SON STORY.

The lesson was from the prodigal son, and the teacher was dwelling on the character of the elder brother. "But amid all the rejoicing," he said, "there was one to whom the preparation of the feast brought no joy, to whom the prodigal's return gave no pleasure, but only bitterness; one who did not approve of the feast being held, and who had no wish to attend it. Now, can any of you tell me who this was?" There was a breathless silence, followed by a vigorous cracking of thumbs, and then from a dozen sympathetic little geniuses came the chorus: "Please, sir, it was the fatted calf!"—Aberdeen Journal.

QUICK DISTRIBUTION.

"I'm proud of you," said the head of the firm. "I have letters from all over Kansas saying that they have seen our samples. How in the world did you manage it?" And he patted the traveling man on the back.
"Cyclone."—Detroit Free Press.

THIS IS THE PERFECT MAN.

The right kind of man from Beersheba to Dan I sought with an infinite zest; from the end of the East my search never ceased till I came to the end of the West.
He's gentle and quiet and plain in his diet, and never gets mad in a crowd; he's a tireless searcher for all kinds of "vircher," and never is boastful and loud.
He's modest and sweet, and he gives up his seat if a washerwoman enters the car. If he smokes out of doors, then the smoke be outpours always comes from a ten-cent cigar.
On the great Wilson bill he will ever talk till you wish he would languish and die. He's in love with his wife, and stays so all his life, and praises her pudding and pie.
I sought for this man from Beersheba to Dan, I sought from the West to the East; but I'm sorry to say that he didn't come to stay, and he's long since defunct and deceased.—New York World.

LOVE'S SACRIFICE.

"Elliotson, farewell!"
With trembling lips the Boston maiden spake these words.
"On the morrow," she continued, "you will leave these hallowed scenes to enter the service of your country—perhaps to encounter the enemy on the field of strife. It may be years before we meet again. Who can fathom the mysteries of the future? Emerson could, perhaps—a tear-drop, exquisitely cold and heartful, glistened through her spectacles—"but he is no longer here. Elliotson, in the hour of peril, of loneliness, of despair, when your spirit droops and existence itself seems a dreary, hopeless blank, let this be your consolation!"
She handed him her cherished volume of Ibsen, and the face of the young Boston recruit shone with joy ineffable.

QUICK TO LEARN.

The Park avenue trolley line in the city of Rochester is crossed by three consecutive streets, which bear masculine surnames. An Irishman, with a carpet-bag, entered one of the cars the other day, and sat down gingerly near the door. Four or five men completed the list of passengers. The car swung around the corner of Chestnut street.
"James!" shouted the conductor. A man signaled him, the car stopped and the man alighted. A half minute afterward the car neared another cross street.
"Alexander!" shouted the conductor. Another man got out. The Irishman's eyes grew visibly larger.
"Adams!" shouted the conductor. The third man left the car.
When it had started on the Irishman arose and approached the conductor.
"Oi want to get off at Avnoo B," he said. "Me foorsht name is Michael."—Youth's Companion.

A QUERY.

Sanders—"If we annex Cuba, will the Cuban women adopt American styles of dress?"
Landers—"Perhaps not; they may wear Havana wrappers."—Judge.

THE RULING PASSION.

"I see an actor has been given a commission in the army."
"I wonder if he will insist on having the center of the battle-field?"—Philadelphia North American.

AN INDICATION.

"He," said the fond but firm father, "is, I fear, a young man of extravagant tastes."
"Yes," the daughter admitted, "he wants me for a wife."—Cincinnati Enquirer.

A BONDHOLDER.

"They tell me Mike's a bondholder."
"Is that so?"
"Yes; he went bail for a man that skipped."—Philadelphia Call.

LITTLE BITS.

Hicks—"Nobblins seems to be bolding up his head of late."
Wicks—"Yes; it probably comes of reading newspaper bulletins."—Boston Transcript.
Envy bites its keeper.
If you can't be a sun, don't be a cloud.
The man who thinks leads the crowd.
Every heart has a thorn and a throne.—Ram's Horn.
"Talk about patriots, I never saw a more ardent one than Brown."
"Yes, Brown goes to the limit. He licked his boy last night for insisting that it was Spanish money behind Columbus when he discovered America."—Cincinnati Enquirer.
"I understand from a careful perusal of history," said a young fellow with an arid upper lip, "that in 1861 the young fellows went to war, and I think it's the old men's turn to go this time."—Denver Times.

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In these days of humbuggery and quackery it will prove a boon to female sufferers, for Mrs. Ellen Worley, Box 666, Springfield, Ohio, has prepared to distribute several thousand free packages to those of her sex who will write for them.

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A SONG OF PRUNES.

Throughout the drift of centuries, since first the world was young, The hards have tuned their lyres up and cleared their throats and sung Glad songs of fruits and flowers, of the orchard and the field. And puffed up nearly everything the soil has deigned to yield. And so I crave attention while your humble servant tunes His lyre to the topmost pitch and sings a song of Prunes.

O Prunes! though thou art fit to grace the banquet of a king, Yet dost thou to the lowly board of humble peasants bring Thy pulpy fatness full of joy and flavors rich and deep— Oh, is there aught on earth so rare and yet so good and—cheap! And could I twang a thousand harps through centuries of Junes, My one and all-triumphant theme would be a song of Prunes.

But oh, the hide-bound, sorry Prune, with visage pinched and lean, We meet in boarding-house resorts is not the sort I mean. Give me, instead, the puffy Prune, inflated with its juice. That makes strawberries and the like to me of little use. For did I own a thousand months and twice as many spoons, I'd still employ them, every one, to get my fill of Prunes! —Nixon Waterman, in L. A. W. Bulletin.

If you want immortality, make it. If you want your soul saved, make it worth saving.—Joaquin Miller.

A COMPLETE electric plowing plant has been installed on an estate in France, in the department of the Tarn.

CLARA—"Most wonderful feats George can do." Cora—"What do you mean?" Clara—"Why, he said I was all the world to him, and he often puts his arm about the earth."—Yonkers Statesman.

A TRAVELER, meeting a settler near a house in the backwoods, the following colloquy occurred: "Whose house?" "Noggs'." "What's it built of?" "Logs." "Any neighbors?" "Frogs." "What's the soil?" "Bogs." "The climate?" "Fogs." "What do you eat?" "Hogs." "How do you catch them?" "Dogs." —Pittsburg Chronicle.

AUNT HARRIETT—"For mercy's sake, where have you and Mr. Sweetser been all the afternoon?" Miss Knice—"Oh, we have only been hunting for four-leaved clover. We have had such a lovely time!" Aunt Harriett—"And how many four-leaved clover did you find?" Miss Knice—"Why, come to think of it, we didn't find any, did we, Charley?"—Boston Transcript.

THE first Antarctic ice passed in several years by vessels bound to the United States is reported by Captain Pande, of the Norwegian ship, Prince Edward, which arrived at this port recently from Carrizal, Chili, with manganese ore. Between Cape Horn and the Falkland islands the bergs appeared in the distance like mountain peaks, and for a time it was thought that land was near. The error was not discovered until the huge masses began to roll with the sea, showing that they were ice which had broken away from some far-distant and perhaps unknown shore. The Antarctic ice is different from the Arctic drift, being harder and of a deeper blue in color. It is slower in melting. Both bergs seen by Captain Pande were in the direct path of vessels rounding Cape Horn.—Philadelphia Record.

HIS FIRST SERIOUS ENGAGEMENT.

"I think I know now," said the soldier who was making a determined effort to masticate his first ration of army beef, "what people mean when they talk about the sinews of war."

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PREMIUM No. 645



The spoon below shows Admiral Schley, of the Flying Squadron, and his Flag-ship, the Brooklyn.

PREMIUM No. 635



The spoon below shows General Fitzhugh Lee, and Morro Castle at Havana.

PREMIUM No. 625



The above spoon shows Captain Sigsbee and his fated Battleship, the Maine.

PREMIUM No. 655



The above spoon shows Dewey, of Manila fame, and his Flag-ship, the Olympia.

PREMIUM No. 615



There are six spoons in the set—Sampson, Sigsbee, Schley, Dewey, Lee and Miles. The General Miles spoon is not shown above, because it is the latest one out and the engravers did not get the cut done in time. The General Miles spoon is ready and may be ordered same as any of the others. The General Miles spoon is Premium No. 665. Each and every spoon is silver-plated, with gold-plated bowl, and is a souvenir every one will highly prize.

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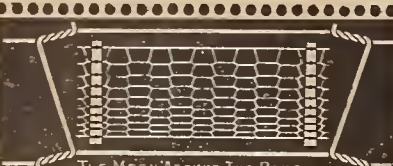
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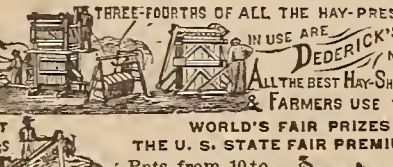
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Our farm.

THE COLT'S TRAINING.

THE average man is not careful as to details. It requires patience and faith in the future to look after little things. Too little importance is given to minuteness of finish and ordinary work. Few farmers give their horses the right finish in training. When this good beast has learned to pull and go cheerfully, and in turn to stop at his own reasonable convenience, the ordinary driver is accustomed to be satisfied. In working in the field with a team hitched to an implement the farm-worker often does not realize the dangers which are all the time about him. The great share of these perils comes from the untrusty disposition of the horses in use. Often the thoughtless man or boy is in front of a harrow, mowing-machine or other implement to which a team is hitched ready to go. If such a team is easily frightened, great is the peril which may follow. Outside of conditions of fright, some horses have the nervous disposition to be stepping forward or backward of their own accord. Such actions threaten casualties to a greater or lesser extent. The facts seem to hold that the majority of ordinary work-horses hitherto have been, as a rule, more ready to run away because of slight fright than to bravely face the ordinary sights and sounds to which the average team is exposed at frequent intervals. It behooves the owner of the young colts to correct these conditions for the future, if possible.

The training of the juvenile specimens of horse-flesh should begin at ten days of age. One who counts himself an expert, and feels sure that he is right, may begin earlier. With the utmost kindness in its first lesson, it should be taught to submit to handling by human hands. These lessons should be repeated daily for a week, and its handling afterward should be continued twice a week until five months of age. Nothing approaching cruelty should ever occur in the handling of the youngster, although it should not be petted beyond bounds. After two months of age great care should be given to the physical growth of the colt, and no proper meal or other food is to be spared in providing a ration that will build up muscle, bone and sinew. Nature's liquid food is the first essential, but from two months to five months of age oat-meal or oats, bran, fine, bright hay and regular grazing should be provided. This supplementary ration should be gradually increased, so that when its liquid food ceases it will not suffer in the least by the change. From the time it is two months old it should also be trained fully to observe the direction "whoa."

Where there is a will for the work, the average man who is working the dam may give this necessary training without loss of to exceed five minutes a day during three months. This means in all less than two days' time given to the youngster before it is six months old.

From the time a colt is six months old its training can be aided much by haltering it whenever it is fed grain. System will reduce this apparent "bother" to one hour's work a month. In six months' time less than two days need to be spent in the aggregate in haltering at feeding-time, and leading the youngster more or less to water, etc. In fact, the man who will dispense with the ordinary worthless dog and devote his affections and energies instead to a fine-looking colt of good physical make-up, will find good remuneration for systematic endeavors. As one makes frequent trips on foot in his pastures or meadow or on the public road on errands to near-by places, a colt may be led and thus taught to fear nothing in the outside world. The youngster may also be hitched beside its dam when driven on the road on short journeys, and thus learn much that is desirable. In hot weather, however, great care must be exercised in leading a youngster under nine months of age beside a mature horse. A sensible boy on the average farm can do most of the desired training, with a few general directions from the proprietor or farm manager. Adults, however, both male and female, should have something to do with the colt's training during its first year, that it may learn all about umbrellas, shawls, robes and other articles likely to frighten it. With great care and in skilful hands the youngster may be bridled, harnessed and hitched to a light vehicle at eighteen months of age, and utilized for driving on brief trips on the road. All along the owner should provide plenty of proper food.

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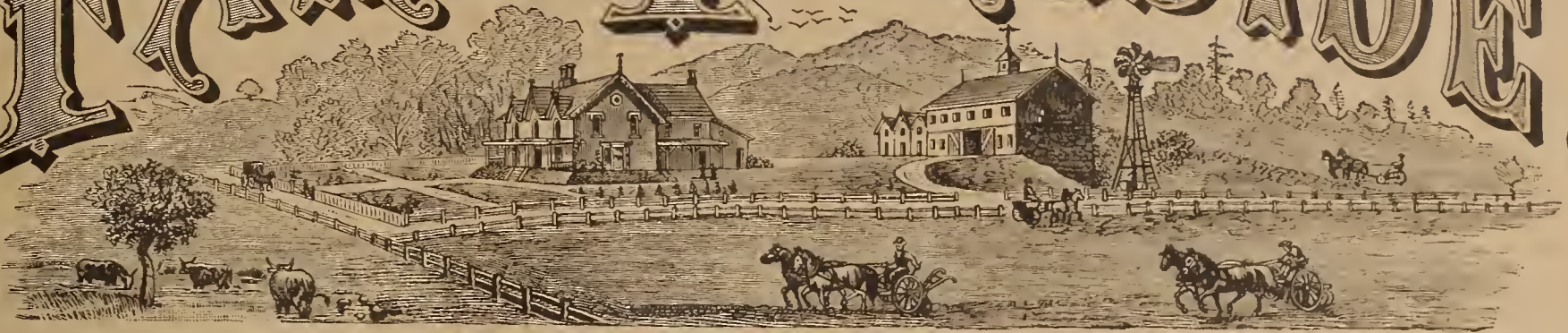
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years; relations which began when Frederick the Great was the first of continental monarchs to recognize American independence, and when Thulmeyer, as Frederick's representative, and Franklin, representing the United States, negotiated the great treaty of 1783, one of the most noble landmarks in the history of international law; they recognize the ties of family which bind millions in the United States to the land of their fathers.

"And here, in this ancient and honorable university town, I may mention another tie which the real leaders of Germany cannot fail to recognize. While we acknowledge in Great Britain the mother-country of the great majority of our people, and while there has been in the present struggle, as never before in our history, a drawing together of Great Britain and the United States, we may well recognize in Germany a second mother-country, one with which our own land should always remain in the warmest alliance; for from the universities and high institutions for advanced learning of Germany, far more than from those of any other land, have come and are coming the influences which have shaped and are shaping the advanced education of the United States.

"I do not believe that these various forces uniting Germany and the United States can be easily dissipated. The assurances which have been given our own country by the German government forbids us for a moment to entertain the thought that there will be anything on the part of Germany but a fair, loyal, straightforward treatment of our nation, and in this German policy of fairness and justice to our country I recognize the best guarantee for that legitimate territorial and commercial expansion which Germany so justly and so ardently desires, and for that continuing and increasing good feeling so important for both countries."

In a recent sermon on "Gold and Patriotism," Rev. W. W. Wilson of Chicago, said:

"A year ago it was the Klondike and gold; now it is Cuba and patriotism. Then we heard much of the mad race for wealth, of man's selfishness, avarice and desire for riches. The dangers of luxury and debauchery were dwelt upon, and the possibilities of national degeneracy and ruin through greed and dishonesty were held up before us. Our character as a people was being undermined by the desire for gold, which is growing on every hand, and which is emphasized and intensified by the discoveries in Alaska.

"But we see to-day that our people are not so far gone in base desires for gold as we supposed. There is a power greater than gold. It is patriotism. Thousands of men have gone to the Klondike in the search of wealth, but hundreds of thousands have gone forth in the cause of patriotism. Our nation is, after all, a nation of true freemen, and our citizenship is made up of noble-minded and intelligent men, who are devoted to the institutions of liberty in which we believe. The 'almighty dollar' has not yet destroyed and never will destroy the spirit of American patriotism.

"Alaska and the Klondike represent to us the prospects of material gain which influence men, but Cuba and the Philippines represent the principles which move the hearts of brave men to deeds of valor in noble and inspiring causes."

"Soon after the great California gold-fever, our civil war demonstrated that we were not a nation of grasping adventurers, but a band of freemen ready to die in the cause of liberty. Now, immediately upon the heels of the great Klondike excitement come the providential circumstances that appeal to the patriotism and humanity of our people; and they respond with an alacrity and fidelity that overshadow the hunt for gold with a manifestation of universal benevolence. . . .

"Our patriotism is not a patriotism for gold. This is the characteristic of our enemy, which always has been a nation of greed and oppression. But our patriotism is a holy inspiration that leads us to use our resources for the blessing of all mankind."

"We have more fortunate men to honor to-day than those who secure great wealth. The soldiers and sailors of our flag, by their heroism and sacrifice, are winning laurels which money cannot buy, and are making records which outlast the glitter of gold."

THE bureau of statistics of the Treasury Department has published some interesting facts on the commerce, productions and population of the Hawaiian islands. Since the reciprocity treaty of 1876, the United States has had a large share of the commerce of these islands. Prior to that year our sales to the islands seldom reached a million dollars annually, but since our trade has steadily grown, reaching \$2,000,000 in 1879, \$4,000,000 in 1890, and promising to reach nearly \$6,000,000 in the present year. In 1876 the imports of the islands were comparatively small, and only about a third were received from the United States; in 1896 they were over \$6,000,000, of which about \$4,000,000 were from this country.

Of the exports from the Hawaiian islands, the United States has also had the lion's share since the reciprocity treaty of 1876. In 1875 we had only about fifty-seven per cent, but now we have about ninety per cent of their exports. Of the \$200,000,000 worth of exports from Hawaii since the treaty of 1876 more than \$180,000,000 worth have come into the United States, and of the \$100,000,000 worth of imports into Hawaii during this time about \$70,000,000 were from the United States.

Sugar appears as the chief export from the islands, though rice has been for years an article of considerable value, and of late, coffee, pineapples and bananas have taken an important place in the exportations. The increase in sugar and coffee has been rapid in the past few years, coffee increasing from 5,300 pounds in 1887 to 225,000 pounds in 1896, and sugar from 212,000,000 pounds in 1887 to 443,000,000 pounds in 1896.

From these facts it appears that commerce has been an active annexationist, and the recent act of Congress but completes the work that has been going on for a quarter of a century past.

Political union has followed commercial union. The commission appointed by President McKinley, consisting of Senator Cullom, Senator Morgan, Congressman Hitt, President Dole and Judge Frear, will soon have formulated a plan for the government of Hawaii. Much argument was made by anti-annexationists about the difficulty of governing the 109,000 mixed population of Hawaii. It is safe to predict that within two years Hawaii will be better governed than any city of 100,000 in the United States.

THE foreign commerce of the United States for the fiscal year ending June 30th exhibits a phenomenon—the exports were almost double the imports. The exports were valued at \$1,231,311,868, an increase of \$180,318,312 over the preceding year. The imports were valued at \$616,052,844, a decrease of \$148,677,568 as compared with the preceding year. The excess of exports over imports was \$615,259,024, which is only about \$800,000 less than the total value of the imports.

The excess of gold imports, coin, bullion and ore, over gold exports is nearly \$105,000,000.

The balance of trade in our favor, the excess of exports over imports, is more than double that of any previous year. Only seven times in our history has the balance of trade in our favor exceeded \$200,000,000. This year it is over \$615,000,000, and its magnitude is better comprehended by comparison with the balance of \$286,000,000 in 1897, \$265,000,000 in 1879, \$260,000,000 in 1881, \$258,000,000 in 1878, \$237,000,000 in 1894, and \$203,000,000 in 1892.

Another remarkable feature is that the exports of manufactures exceed the imports of manufactures.

The total exportations of manufactured goods in the fiscal year ending June 30th reach nearly \$300,000,000.

Agricultural products formed seventy-one per cent of the total exports, but this proportion is not as large as in some former years, owing to the remarkable increase in exports of manufactured articles.

WITH THE VANGUARD

AMBASSADOR ANDREW D. WHITE, in his notable Fourth of July address at the American banquet in Leipsic, performed a service to his country, and to Germany also. His address has been widely commented on by the German press, and has modified criticism and corrected German public opinion of America. The address closes with the following statement of the present relations of the two countries:

"From the first, during the present war, the German government has recognized our fullest right as belligerents. It has observed full and strict neutrality, and this neutrality has been neither cold nor grudging. No request has been made by our government that has not been met promptly and fully. There have been occasions when, had there been any wish on the part of the rulers of Germany to check our career, delays and evasions might have taken place, but there have been neither delays nor evasions.

"I repeat it, then, the conduct of the German government and all concerned in it with whom we have had to do has been both in letter and spirit all that we could ask or desire.

"And I may go yet further and say that whoever else in Germany may or may not understand the real import of the present struggle and the questions bound up in it, the German government understands those questions and does justice to the motives of our government. Whether others know it or not, the men governing Germany know that our government and people desired peace as long as peace was possible; they know that our motive in entering the war was not to grasp new territory.

"Whoever else may forget or be careless of the ties which unite the two nations, those who conduct the German nation recognize them. They bear in mind the great interests of commerce between the two countries; they recognize the fact that whatever increases the prosperity of the United States increases its demand for articles of German manufacture; they bear in mind the honorable peace and cordial relations that have existed between the two nations for more than one hundred

FARM AND FIRESIDE

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ABOUT RURAL AFFAIRS.

Unfermented Grape-juice. The unfermented juice of most of our fruits makes a delicious drink, at least so to my taste, and that of good, sound and ripe grapes is especially acceptable. The grape-juice now put up on a commercial scale, however, is rather costly, our stores asking more for a quart bottle of it than for fairly good old fermented wine. And when we are willing to pay a lot of good money for the "unfermented article," we are not even sure that it is free from salicylic acid or other harmful preservatives. With grapes abundant and cheap, we need not go without grape-juice nor depend on the stores and commercial bottlers. One of my Canadian friends and neighbors has for years been bottling, or rather canning, his own supply, and finally the Canada experiment farm at Ottawa has taken the matter up and experimented with the preservation of unfermented grape-juice. According to its report, the natural flavor of grape-juice may be preserved intact by raising the temperature of the juice gradually to one hundred and seventy degrees, Fahrenheit, keeping it at this point for ten minutes and then quickly bottling it, taking care to use absolutely air-tight and thoroughly sterilized vessels. These vessels should be taken from a tank or kettle of boiling water, immediately filled and corked or covered with the least possible delay. I believe that it would be well to wrap each bottle with several thicknesses of newspaper, or slide it into a paper sack, and in any case to place it on its side and keep it in a dark room.

More About Baking-powders. A lady reader sends me the wrapper taken from a can of a well-known brand of baking-powder. On this wrapper I find the following recipe for a strictly pure cream of tartar baking-powder; namely, "Take one pound of pure bicarbonate of soda, mix and sift thoroughly with two pounds of pure cream of tartar. This can be diluted with starch to lessen its cost, as is the custom with most all manufacturers of baking-powders." This firm advertises bicarbonate of soda at two dollars for one hundred pounds, and pure cream of tartar at eight dollars for one

hundred pounds, so that a lot of three pounds of pure baking-powder would cost (not including a fraction of a cent for freight) just eighteen cents, or six cents for one pound. The usual addition of starch or other adulterants would put the cost of one pound down to or below five cents. Yet we have to pay fifty cents for the brand recommended by Mrs. Rorer. Is it really necessary to pay such a price for a baking-powder worth, at the very highest, only six cents? I do hate to throw money away in this style.

From another reader I have the following communication on the same subject: "Permit me to reply to the request in your last number for further information on the subject of baking-powders. For a long time I pondered on the subject, especially as I found that this preparation was costing more in proportion to the flour used with it in making various articles of food than it should. I could not believe that the actual value of it was any such amount as forty or fifty cents a pound.

"Happening to be well acquainted with a leading baker of the city, I appealed to him, and was at once put in possession of the secrets of the trade. Baking-powder of the best quality is made of nothing in the world but soda and cream of tartar in the proportion of one pound of soda to two of cream of tartar. As the soda costs three cents a pound, and the cream of tartar twenty-five cents, it will be seen that three pounds can be made for fifty-three cents. In use it will be found that a second advantage is gained from the purity and strength of the article, for it is the practice of the baking-powder companies to mix their product with some drying substance, such as corn-starch. This is in one sense necessary to make the powder keep a considerable time. Without it there would be danger of gathering too much dampness; but it is easily seen that it lessens the actual value of the powder, and is so much cheaper than the real ingredients that there is any amount of temptation to use it to excess when it becomes an adulterant.

"It may then be set down as a rule that all commercial baking-powders cost not less than four times as much to the consumer as the ingredients do to the manufacturer. This is, however, not the whole story. If it were, the companies that make this article would speedily disappear. No baking-powder is fit to use until the soda and cream of tartar are so intimately mixed that there is not a particle of the one without a particle of the other. This mixture must fairly amount to a chemical combination, and it is here that the hold of the commercial article is maintained. It is the entire secret. Any one can put baking-soda and cream of tartar together in the proportion of two to one, but very few know that it is necessary to mix them a long time before using. So the experiment, if actually tried, usually ends in a badly mixed article, a batch of poor biscuit or cake, and the commercial baking-powder is safe again.

"Bakers use very fine sieves for the mixing process, but usually say that a cook could not be trusted to use the proper amount of time and patience for this operation. I would recommend a device like an old-fashioned hour-glass, into which the ingredients could be placed after being moderately mixed. Then all that would be needed would be to reverse the glass occasionally and it would soon mix the powder perfectly. That is, unless you have a friend who is a baker and makes his own and yours. It will be seen that though chemical questions might be raised in connection with the preparation of baking-powder, the purely mechanical side is all that need be considered."

J. C.
Buffalo, N. Y.

Of course, the prudent housewife is not obliged to use any of these baking-powders, bought or home-made, so long as she has access to acids that are cheaper and perhaps even more wholesome than any that might be purchased for mixing with the soda. All housewives know how to use, do use, sour milk and sour buttermilk in place of cream of tartar for the same purposes that baking-powders are used. The only difficulty may be found in ascertaining the exact degree of acidity in each sample of milk or buttermilk, and therefore the amount of soda that will be required to neutralize the acid without

leaving an excess of soda. The exercise of good judgment will be necessary.

Bees and Fruit.

Mr. A. J. Cushing, of Wisconsin, referring to my notes on this subject (published in issue of June 15th), calls my attention to the need of bees to fertilize the fruit, and sends me a quotation from a lecture by Mr. Wm. Cowan (California), as follows: "It is useless increasing the area under fruit cultivation without at the same time increasing the number of bees kept. As an instance I would mention Lord Sudeley's fruit-plantation in Gloucestershire, England. About two hundred acres of fruit-trees were first planted, and for some years there was such poor success that it was a question whether the enterprise should not be abandoned. Lord Sudeley was, however, advised to introduce bees, as it was found that not many were kept in that district. Two hundred colonies in charge of a practical bee-keeper were introduced, and the result was magical. Thenceforward the trees bore fruit properly, and the former failure was turned into a success. Since then five hundred acres have been planted with fruit-trees, and a large jam-factory has been started close by, both undertakings being in a prosperous condition." During the time of our heavy fruit-tree bloom this spring I had already wondered whether there were bees and other insects enough in the vicinity to effect the fertilization of sufficient blossoms on all trees, and when the fruit set scantily I looked over a number of orchards, situated at varying distances from bee-stands, to see whether this distance did make a difference. I am not at all satisfied on this point. My brother in Ontario county, who keeps one hundred and fifty stands of bees (more or less) on his place, reported that fruit-trees had failed to set freely on account of continued rainy weather. Here we have had good weather most of the time during the tree-bloom, and only an occasional shower. What reason can we offer for the failure of trees to set fruit? I am a friend of the bees, and appreciate their work in carrying pollen from blossom to blossom; yet I have to call on my readers everywhere, who may have made observations on this point, to report to me whether they notice any difference whatever this year in the amount of fruit of the same kind set on trees that stand near colonies of bees and on trees which do not have the advantage of bee-stands within a reasonable distance.

T. GREINER.

SALIENT FARM NOTES.

Plow After Harvest. After the wheat and oats are cut up comes the ragweed, with other weeds too numerous to mention, and in a short time the stubble-fields look like they had been forgotten. On land that was rich I have seen a perfect forest of ragweed spring up in an incredibly short time after the wheat and oats were cut. The only way to prevent this is to plow the land soon after the crop is removed. And this can be done by every farmer who is not trying to farm two or three times as much as he can. The plowing need not be deep—three inches is sufficient to destroy all weeds that have started. If the land is to be seeded to wheat again, this early plowing will be of the greatest benefit to it, preventing it from baking into rock-like clods which neither roller nor plank-drag can pulverize. Stubble-land skimmed over with the plow soon after harvest can be reseeded deeper afterward, if desired, and it will crumble nicely and can be worked down fine without difficulty. I would advise all farmers to plow after harvest, whether the land is to be reseeded to wheat or not.

A farmer of my acquaintance who grows excellent crops of winter wheat tells me that he never grows less than two crops on the same tract, and that very often the second crop is better than the first. He plows, or, I might say, skims the land within two weeks after harvest, and from that time until seeding the land is worked over at least once every two weeks with a disk-harrow. When seeding-time arrives the soil is in the very best condition, the seed goes in just right, the plants come up quickly and make a strong growth, and he never fails to obtain a good stand and raise a good crop if anybody in the locality does.

Some farmers think it is not a good plan to expose the soil to the July and August sun by turning the stubble and weeds under. I am of the same opinion, if the soil is allowed to lie and bake like a brick. But if it is constantly covered with a mulch of finely pulverized earth, experience plainly indicates that it is benefited rather than injured. The stronger, thrifter growth of the wheat-plant in such soil seems to show conclusively that it is far better to manage it in that way than to allow a crop of weeds to grow on it before plowing. If the land is not needed for wheat, but is to be held for corn the following year, it is a good idea to plow it and seed with some crop that can be pastured or utilized in some other way—turned under late in the fall as a fertilizer. Anything is better than a crop of weeds to foul the land with their billions of seeds and double the cost and labor of keeping them in subjection the following season.

Chinch-bugs.

I notice that chinch-bugs have made their appearance in countless millions in some localities, and without doubt they will do much damage to the corn crop. They are a pest that is difficult to fight. One man of my acquaintance found them swarming in a twelve-acre field of wheat which was surrounded on all sides by his corn-fields, and though the wheat was headed out and bid fair to yield fifteen bushels to the acre, he went into it with big plows and rolled it, bugs and all, under six inches of soil. Whether he has finished them is a question his neighbors are debating. If he has saved his corn by destroying his wheat he is clearly ahead. I shall watch this experiment with interest.

Some farmers are opening ditches twenty-four to thirty inches deep between the small grain and corn fields, and when the bugs begin to migrate toward the latter, a log eight to twelve inches in diameter and six to twelve feet long will be dragged to and fro along the bottom of this furrow. In this manner millions of the insects are destroyed. When the dragging is done steadily day and night, through rain and shine, the bugs are held in check and the field saved. It is tiresome work, requiring lots of patience and perseverance. When the bugs get their wings and fly they become so scattered that little further injury is done by them.

Soiling-crop.

S. S., Iowa, writes: "I have a half acre of corn growing in drills two feet apart. It was sown to be used as a soiling-crop to be fed to my cows if grass got short; but I have sold part of my herd, and the frequent rains have assured me plenty of grass in the pasture, so I am thinking some of cutting the corn and feeding it to my pigs, of which I have eighty-two kept in a large yard without any green food. How would it do?" Just the stuff for them. Begin feeding a small quantity at first, and gradually increase until you give them all they will eat while fresh and green. Green corn is the best substitute for grass that I know of, and every farmer who has not sufficient pasture to supply his hogs with grass all summer should grow a patch of corn to be fed to them green. Pigs do not thrive well in summer without some green, succulent food of some sort. That half acre of corn will do your pigs so much good that I think you will grow an acre next year.

Weeds in the Garden.

I see so many gardens that appear to be forsaken and given over to weeds that look like small trees that I may be excused for referring to this matter again. Don't let the weeds take the garden after the early vegetables have been removed. It not only looks shiftless, but a crop of weed-seeds are grown that will trouble you for years. Run through the strips where the peas and other early stuff grew with a corn-cultivator a few times, or, better still, turn them over with the plow and drill in sweet corn or dent corn thickly, and let that take the garden. It will smother out the weeds and supply a large quantity of good food for pigs or cows. It may be profitably sown up to the first of August. I drilled in a lot July 18, 1897, and it was six feet high, tasseled and earing when frost came.

FRED GRUNDY.

Our Farm.

FARM THEORY AND PRACTICE.

THE SUMMER FALLOW.—In recent years we hear little of fallowing land, and some of our younger readers may not know that there was such a method of treating land in rather common vogue among western wheat-growers many years ago. Fallowing is the plowing and harrowing of land without seeding in order to kill weed-seeds and insects and to increase the availability of the plant-food in the soil. A summer is devoted to this work, the idea being that the increase of yield when a crop is seeded and the freedom from weeds are worth more than any probable net profit from a summer crop the first year. The method was a good one in early days when means of transportation were limited and there was practically no market for bulky summer crops; but in ordinary farming to-day it is usually best to grow a summer crop while cleaning land of weeds, and bringing it into good tilth for a seeding to fall grain and grass.

This old practice is called to the reader's attention, however, because there are yet many instances in which the old-time summer fallow can be made profitable. It is my experience that there are spots over the farm that become infested with some noxious weed or become thin and intractable so that good stands of grass cannot be secured or retained, and the management of such strips or corners formerly puzzled me greatly. One wants every foot of meadow-land to produce good, clean grass, and a block that is badly infested with bindweed or plantain or other troublesome weed is an aggravation and a source of loss. On many a farm there is a thin field that has a poor, weedy sod, and that will not produce a profitable summer crop on account of lack of manure. It is in such cases as these that the summer fallow gives good results. Noxious weeds are killed out, fertility is increased by the tillage of the soil, a splendid seed-bed for wheat and grass is made, and a clean clover and timothy sod is secured without great expense and practically with no loss of time, as no net profit could have been reasonably expected from a summer crop. Cast-iron rules will not stand the strain of farming. They snap. The modern idea that land should not lie bare for months, when otherwise it would be growing some sort of sod or crop for its improvement, is the right one, as a rule, but it should not lead us wholly to discard the methods of our fathers. When a seeding to wheat and grass is the prime consideration, and when the land is foul, thin or intractable, promising no profit from a summer crop preceding the wheat, the summer fallow remains the choicest way of subduing the land and putting it in prime condition for the desired seeding. I have been adopting this way of handling small areas of such land, and write from experience. It is the heroic method of handling the few acres that have been costly and unprofitable in their culture for various reasons.

PREPARING LAND FOR WHEAT.—A modification of the old-time summer fallow is involved in the proper preparation of a seed-bed for wheat to-day. When stubble-land is broken for wheat, the breaking should be done as early as possible. In this way much of the benefit of a summer fallow is secured. The soil needs exposure to the air in order that chemical changes may be promoted that result in an increase of available food for the plants. It needs time for such tillage, that the particles of soil may be well mixed, having their positions toward each other changed. It needs time to become solid beneath the surface as a result of rains. Professor Storer says that "in England practical men have always insisted that land which is to bear wheat cannot be too old or solid, provided that it is fertile and free from weeds, and that there is enough loose loam at the surface to cover the seed. They hold that a 'firm standing' is required for the healthy development and proper ripening of wheat." In proof of this, I have often noticed that the best wheat in the field is on the sides and ends where the most tramping has been done by teams and men. The best seed-bed is the one that is plowed and pulverized early in the season, and then receives regular surface-tillage until time of seeding.

FEED LAMBS GRAIN.—Lambs designed for the butcher between now and winter will pay more for a daily feed of grain than the grain could be disposed of for in any other manner. Put it in a creep where the lambs can get it, but not grown sheep. When on good and sufficient pasture it is of no benefit to the nursing lambs to feed the mother ewes grain.

BUYING FERTILIZERS.—So much has been said and written about the interpretation of analyses, as printed upon fertilizer-bags, that every farmer should be able to estimate roughly the value of any brand offered him; but the general agent of a great eastern factory told me the other day that comparatively few Ohio farmers seemed to pay any attention to the analysis when buying. Probably nine tenths of the fertilizer used upon wheat west of the Allegheny mountains is dissolved rock. It is not usually sold as "rock," because many farmers have a prejudice against that name, but is called "bone" goods. Our best authorities say that it makes no difference whether the phosphoric acid comes from these deposits in rocks or from bone, except that the former is usually more quickly available and often more desirable. I should like to suggest a simple way of determining the relative cash value of the kind of phosphate in general use among us. Look through the long list of names for these three: Nitrogen (or ammonia), phosphoric acid and potash. The class of goods of which I write contains only phosphoric acid. There are two rows of figures in the statement of analysis; mark out the second row, as it is not guaranteed and only confuses, giving the buyer an idea that he is getting more than is guaranteed. Only the first row deserves any consideration, as only it is guaranteed. Now mark out every item listed, except the one called "available phosphoric acid." You can see that it is the sum of the two items, "soluble" and "reverted," and what you want is available plant-food. That item telling you what it is "equivalent to" is placed there to make the analysis appear imposing, and it does "impose" upon those not posted. You are interested only in that one item, "available." It may be eight per cent, or nine per cent, or fifteen per cent, or something else, according to the worth of the goods. West of the Allegheny mountains this year the fertilizer should cost the buyer just about as many dollars a ton as it contains per cents of this available phosphoric acid, if you buy the best grade for cash. If fifteen-per-cent goods are worth \$15 a ton, eight-per-cent goods are worth only \$8 a ton, because the latter contains only that proportion of the plant-food you want. If nitrogen or potash is listed, the fertilizer is worth more money; but I write now only of that mass of fertilizer that is so generally used which contains neither potash nor nitrogen. Fertilizers must be bought intelligently. DAVID.

PRESERVATIVES.

Dairy Commissioner Mitchell, of Wisconsin, writes to "Hoard's Dairyman" on the subject of preservatives. In part he says:

"I feel that warning should be given milk-shippers and dairymen against certain questionable practices which are alarmingly on the increase. I refer to the use of deleterious substances in milk and dairy products. It is now beyond question that through cleanliness, pasteurization and purification by centrifugal separator treatment, with subsequent cooling, milk may be shipped to market in the warmest weather. These cleanly and sanitary methods have not come into use largely because chemical antiseptics have been advertised and lauded by unscrupulous nostrum vendors as being entirely harmless, and making all care and cleanliness unnecessary. The use of preservatives has gained ground among milk-shippers until the public is becoming thoroughly alarmed, and steps must be taken to prevent it.

"During the last year a new and most powerful chemical disinfectant has been foisted upon the market as being harmless, and with the additional advantage claimed that it could not be detected by chemical means. This substance is formic aldehyde. The substance is caustic, and if allowed to remain upon the skin will cause intense burning and itching, and the superficial layers will die and peel off, as after a fever.

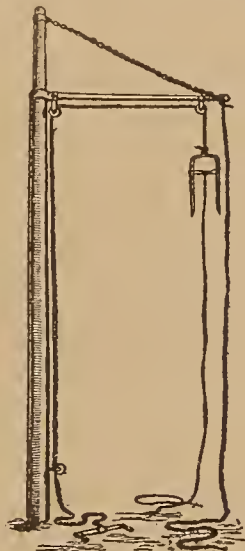
Doctors have been obliged to abandon its use as an antiseptic, in a very dilute form, for preserving ear-washes and similar solutions, as continued contact in dilutions as high as one to ten thousand causes the skin to die and peel off. This substance, so much more active than borax and boric acid, has been advertised over this state, and when warm weather sets in dairymen may be tempted to try it, if they are not informed of its true name and character.

"The Wisconsin state law, in reference to the use of these substances, is as follows: 'A special law of 1895 prohibits the sale of dairy products to which boric acid, salicylic acid or compounds containing them has been added.' It will not be necessary to prove that the substance used will cause direct injury in the doses in which the milk will be used, as it is the evident policy of the law to exclude, entirely, the use of deleterious substances in food products when not absolutely necessary in their manufacture. The law bearing upon this reads as follows:

"A food shall be deemed adulterated if it contains any added substance or ingredient which is poisonous, injurious or deleterious to health, or any deleterious substance not a necessary ingredient in its manufacture."

THE DERRICK STACKER.

The derrick stacker is in use in many sections of the West, and gives general satisfaction in hoisting hay, straw and grain. It is made stationary, and can be used in making a round stack, with the pole in the middle, or for lifting hay or



grain to a platform, from which it may be put in the barn. This simple device is also handy for stacking on sheds, saving all the heavy pitching from the wagon. Some farmers have the derricks set against the barn, and use them for hoisting machinery to the top floor in winter and letting it down in the spring. The derrick will be found handy for filling and emptying silos and cellars, and will save time and money on any farm if properly handled.

The stacker consists of one long post or pole set solidly in the ground and extending thirty to forty feet in the air, a short arm of ten or twelve feet, and the necessary ropes and pulleys. The arm is fastened at the height desired by bolting onto an iron band, sometimes made from an old wagon-tire inserted in a groove or collar cut around the post. A strong wire, rope or chain is then fastened to the outer end of the arm, or derrick, and on a band made to circle round near the top of the pole. Three pulleys are sufficient to hoist the load, and a small rope in the hands of the man on the stack or ground enables him to pull the hoisted load wherever desired.

As no one has disturbed the farmers using the derrick, it is supposed the stacker is not patented, hence no royalties will be demanded of any man who wishes to make one.

JOEL SHOMAKER.

CONSERVATION OF MOISTURE.

In the months of July and August the evaporation of moisture by the sun takes place very rapidly. We have been taught that the cheapest way to conserve moisture is with an earth mulch made by constant cultivation. This may do for the farmer with large fields, but for the gardener who practises an intensive system of growing crops, and plants so closely that large quantities of water are required to make a satisfactory growth, the moisture that can be conserved by an earth mulch with ordinary soils is not

sufficient for the needs of the plants. During a drought of two weeks in August I have had closely planted celery wilt to the ground, although an earth mulch was kept around it by constant cultivation with a wheel-hoe. I believe those who cultivate the soil will profit by an intelligent understanding of the kinds of soils that best absorb and retain moisture; how to prevent rapid evaporation and percolation, and how to make the soil retain the moisture which it gets from natural sources—rain, capillary attraction and the atmosphere.

I suppose that every one who cultivates the soil has noticed the difference in soils as to their retaining moisture; that a cultivated gravelly soil rapidly loses its moisture after a rain when exposed to a hot sunshine, and that loamy soils filled with humus retain their moisture for a longer time. When the rain falls on a gravel-bed the water soon percolates through it, but the ideal soil—a well-drained loam full of humus—absorbs and retains water like a sponge, and under the right treatment holds a constant supply for the use of the growing plant. Water is the vehicle which makes soluble and conveys the plant-food in the soil through the structure of the plant. On a hot day, when the sun shines, the water in the soil not only escapes rapidly by evaporation, but is pumped up by the plant and passes off through the pores of its leaves by a process called transpiration. An ordinary plant-leaf contains about ten thousand pores to the square inch. From these pores in hot, dry weather it is constantly transpiring. Every square foot of a closely planted field gives off two to four pints of water in twenty-four hours, or from fifty to one hundred tons of water an acre. This is in addition to the water the soil loses by evaporation and percolation, which must be considerably more. We understand now the importance of conserving all the moisture the soil gets from its natural sources, and if circumstances permit, supplement it by irrigation.

The first essential in conserving moisture is the right kind of soil. The soil in its primitive condition, composed of mineral matter worn from the rocks by the process of erosion, does not retain sufficient moisture. We may learn how to improve our soils by studying nature in her effort to supply the soil with the humus that enables it to retain moisture by the growth and decay of vegetation. But nature does not often prepare a soil suitable to all the needs of growing edible plants on an intensive system. Working in the same line with nature we carry the work further on.

Writing from experience on my own little farm, I know that portions of it from which the moisture soon escaped when cultivated in hot, dry weather have been greatly improved by incorporating more vegetable matter in the soil. On such sandy or gravelly soil I apply the coarse manure, and when a crop is removed early in the summer, sow to crimson clover or rye. The clay loam which covers a gravelly subsoil on the most of my farm has been so improved by plowing under green crops that it retains its moisture much better than formerly. Even with the very best soil the gardener, in the hot weather late in summer, when his plants are so large that they need large quantities of water to obtain the largest growth, must use means to prevent evaporation of moisture from the surface.

From my experience with irrigation I have learned how to economize in the use of water, by shading or mulching the surface. Few people realize the large amount of water required to keep an exposed surface moist during a time of drought; but mulch the surface and only a fraction of the water is needed. I am now irrigating a field of celery; it is planted in alternate rows of one and two feet apart, the space between the wide rows being mulched with manure. The plants are large enough to shade the surface between the narrow rows. A revolving sprinkler moved so as to go over the field once a week keeps the ground sufficiently moist, while a part of the field with the surface exposed to evaporation needs sprinkling every day. The lessons learned from my experience in a word are: Fill the soil with the humus to enable it to absorb and retain all the moisture possible; give frequent cultivation during the early part of the summer, then prevent rapid evaporation by mulching the surface not shaded by the plants, and with me it is more economical to apply in this way the manure needed to supply plant-food.

W. H. JENKINS.

Our Farm.

NOTES FROM GARDEN AND FIELD.

CARPETING THE GARDEN.—It almost seems that in our garden and field operations we are bound to be forever wabbling between extremes. At one time we are trying to avoid the trouble of transplanting to such an extent as to sow seeds of cabbage, cauliflower and even celery and tomatoes right where we want the plants to grow in open ground, and then again we grow seedlings for transplanting even of such things as onions, and in our practice transplant or shift tomato and similar plants half a dozen times. At one time we favored frequent cultivation rather than mulching, in the conviction that a soil mulch would be the cheaper and fully as effective as a mulch of litter. And now I come to tell you of the advantages of just such a mulch over the mulch of pulverized soil produced by means of hard work in digging the surface of the soil. In reality, it is not an exactly new idea. I have spoken of this very thing before. For small gardens and in cases where the required amount of coarse litter can easily be obtained it is really a grand thing, and will add a great deal to the neat appearance of the garden and to the owner's comfort and pleasure derived from his gardening operations. We like to have our living-rooms nicely carpeted. There is no reason why we should not also have a good carpet in the garden, so that one can walk comfortably through the rows, and this without soiling one's shoes even after a rain, and besides, be relieved of all the work of cultivating and hoeing. In short, one can make a parlor of the garden to be proud of.

MULCHING POTATOES.—I first hit upon this idea of "carpeting" the garden a few years ago, when I happened to have a lot of rather coarse, fresh manure that I wanted to get out of the yard in early summer, and scattered it three or four inches deep between the rows and all around the plants. This choked out all weed growth; at least, very few weeds managed to come through the mulch, and these were easily disposed of by being pulled up by hand. The mulch kept the soil cool. The potatoes remained free from blight (and they were the only ones that did), and consequently they gave a big yield of tubers. I now practise this plan with my earliest garden potatoes, as well as with any variety new and especially valuable.

MULCHING CELERY.—Then I extended the practice to celery. At first I scattered fine manure among the plants in the plots planted by the method now known as "the new celery culture." This already gave good results. Afterward I worked on plans of my own, and hit upon "the newest celery culture." I am now putting coarse manure or other litter between each two double rows, the mulched spaces being about eighteen or twenty inches wide, so that the whole ground is covered either with the foliage of the celery-plants or with the mulch. This year I am trying to utilize a lot of old corn-stalks for mulching celery in a little different way from the manure mulch. The idea is to dispense with the blanching-boards by leaving the corn-stalks in bundles and simply drive little stakes along the outside of the rows so as to keep the stalks from crowding nudly on the celery-plants. A patch of celery once fixed in this way (and it is not much trouble to fix one that is fully large enough for a good-sized family) will need no further attention except watering in a dry time. Then we can draw a few barrels of water and pour it from a hose or pipe right upon the manure mulch or litter, and let it soak down through it, charged with plant-foods, into the soil, where the celery-roots will find and use it.

THE MULCH FOR BERRIES.—The old corn-stalks came also very handy for mulching my patch of raspberries. The rows of my Canberrys are six feet apart from center to center. The rows are rather wide, as it seems quite a task to keep the plants within bounds. The vacant spaces between the rows may be four feet wide (the tops nearly meet above them), and they are deeply covered with the stalks. Few weeds come through, and it is really a pleasure to walk between the rows and

gather the berries, so much so, indeed, that I do not intend my berry rows shall ever be left without such a mulch hereafter. And the currants and gooseberries will not be forgotten in this respect, either. I believe that a heavy mulch will insure me heavy crops of these fruits without cultivation, if I will only look after the worms in time. Spraying for leaf-blights and mildew will also be unnecessary when the ground is heavily covered with litter.

MULCHING CAULIFLOWERS AND CABBAGES.—My success in mulching the mentioned crops has made me think of securing the same happy results with others. Cauliflowers are like gooseberries, in so far as they do not like heat and drought. My late crop of cauliflowers will be treated to a soil mulch of coarse manure, and I feel quite sure that I can grow good heads in this way without much trouble. My early cauliflowers were in good demand and brought very satisfactory prices. If late ones will sell as well, it will pay me to take some pains with the crop. If I have manure enough I will also try the mulch on a portion of my late cabbages.

LATE PEAS.—Most people are fond of peas, at least of the tender and sweet ones which we grow in our own gardens. The only trouble is that the pea season is not long enough, and during a large portion of the year we have to be contented with the rather hard things that we buy as canned peas in the groceries. The only redeeming feature about them is the tender earrots which we usually have cooked with these canned peas. But why not have green peas during a larger share of summer and fall? It is true that peas cannot stand summer heat and drought any more than can cauliflowers. Usually the late peas mildew badly. We will have to try our universal remedy again—the mulch of manure or litter. I believe we can grow good peas in this way all summer. Here it is nearly the middle of August; but I made another sowing of "early" peas (Horsford's Market Garden and Alaska, possibly Nott's Excelsior), in the hope that I can have a good picking of tender peas in early fall. It is worth the trial.

T. GREINER.

THE CURCULIO.

The curculio is a small, dark brown, winged beetle, with black, yellow and white spots. The largest are scarcely a quarter of an inch in length, and average about three sixteenths. They have two humps on the back, and are possessors of a relatively long throat and bill, which falls between their fore legs when not in use. When they are working on the fruit a sudden jar on the body of the tree will cause them to fall and roll up as if dead. The theory of some is that they seldom, if ever, leave the tree upon which they find themselves. The evidence in part favoring this idea is shown by their reproduction; for the larvae are carried to the ground by the fruit that the curculio spoil, and are there hatched and partly matured. Others contend that they are of a migratory nature. This view is supported by the fact that they are provided with wings.

When the fruit begins to set and during its continuance this pest performs, by making an oval or crescent-shaped wound. In this puncture the egg is deposited, and soon develops into a grub. It grows with the fruit, and soon becomes large enough to destroy the vitality of the fruit, causing it to drop from the stem. From thence the grub finds its way into the ground, and reappears the next spring in the form of a small winged beetle. This is the usual effect on the plum, which is its favorite fruit; but with the apple, peach and pear the attack is not so fatal. The peach, being stronger than the plum, does not so often fall, but is materially damaged for market and use by the wound.

It has erroneously been supposed by some that the danger from the curculio was over as soon as the fruit was well started; that if it could be protected for two or three weeks after the blossom falls it would be safe. Observations, however, show that it continues its work of devastation through the whole season.

The loss to horticulture can scarcely be overestimated, because the curculio has almost driven the plum from our orchards. Should the work of devastation prove as destructive to the peach, our hope would change to despair.

Some horticulturists have advanced the idea that stiff clay lands are unfavorable and light sandy ones are favorable to its propagation and increase. Observation shows that soil has little, if anything, to do with it.

Many remedies suggested have been tried, but proved failures, though some have been wonderfully advantageous, even if not total destroyers. Planters must experiment and observe, for the destruction of the curculio is so desirable they should never despair; and to the man who finds its destroyer the gratitude of hundreds is due and will be given.

The most effective remedy is to jar the tree and kill the pest. This is tedious, and impracticable for large orchards. Spread a sheet or something covering the ground under the tree, and jar the tree suddenly two or three times by striking the body. Then gather together the insects and destroy them. A contrivance like an umbrella, open at one side so as to be easily placed around the tree, is best. Spraying has never proved advantageous. Let no fallen fruit remain in the orchard. A good plan is to turn in the hogs for a time.

W. S. JOHN.

COW-PEAS IN PLACE OF STABLE MANURE FOR CONTINUOUS STRAWBERRY CULTURE.

In answer to the question, "Can't I plow up immediately, and sow or drill (which-ever is the best) with cow-peas, raise them large enough to plow under before winter, and use commercial fertilizer, say about one half ton to the acre at planting-time, and get my ground as rich without hauling in any manure and weed-seeds?" C. Wright, in "Rural New-Yorker," says:

"Very little strawberry-land has ever seen stable manure. We don't have it, and if we did, it causes weeds and clover to grow too much. On very poor land I use it, but do not advise it. I don't know how long such a practice as you describe may be kept up at a profit, but certainly by the use of cow-peas and fertilizer for some time. If you sow peas, and turn under before the peas mature, you can still seed rye to protect the land during winter, and if this is likely to be too much green matter, you can use lime to prevent the land from becoming sour. I would also apply either rock and potash or bone and potash before planting broadcast, and harrow in, say five hundred pounds to the acre; then use ground fish or tankage, with a small proportion of nitrate of soda, say of both three to four hundred pounds to the acre, on top of the rows when the plants begin to grow. If the land is rich in nitrogen, don't be too lavish, or you may get more plants than fruit. But if you have the land to spare, I would prefer to sandwich a crop or so of potatoes between the berries if I could, or the same land year after year may get sick of them."

ORCHARD AND SMALL FRUITS.

CONDUCTED BY SAMUEL B. GREEN.

INQUIRIES ANSWERED.

Time to Plant Apple and Peach Trees.—A. S., Charleston, Ind. Probably you had better set your trees in the spring.

Three-leaved Orange.—J. H. M., Valparaiso, Ind. The specimen you inclose is from the three-leaved orange (*Citrus trifoliata*). I think it hardy at Valparaiso, except that in unusually severe locations it would probably kill back in severe winters. It is a very good hedge-plant in New Jersey and in the South. The leaves are glossy, deep green and very beautiful; flowers sweet-scented; fruit about one and one half inches in diameter, but hardly edible.

Scale-insect on Apple Twig.—G. D. R., Elvan, Va. The live-like scale-insect on the apple twig which you sent me is very unusual and not liable to do serious injury, and is most common further south than Virgilula. Its scientific name is *Chionaspis moniliformis*. The remedies are washing the branches with strong whale-oil soap or kerosene emulsion. Where they are very thick, painting with a thin coat of clear kerosene on bright days in winter would be a good remedy.

Ornamental Shrub.—J. W. P., Empire, Ohio, writes: "Inclosed find specimen branch of hush that grows near the Ohio river. Please identify the same, giving medicinal properties and what used for."

REPLY:—The specimen received is commonly known as ninebark, and a variety of it with yellowish leaves is known as golden spirea. Its botanical name is *Opulaster opulifolius*. I do not know that it has any special medicinal properties. It is used as an ornamental shrub.

Protection Against Rabbits.—E. T. F., Mendon, O. T. Linseed-oil palut can gen-

erally be safely applied to apple and peach trees, but for protection from rabbits I prefer to use cement or strong whitewash, to which has been added a small amount of Paris green. This makes a perfectly safe and excellent preventive for rabbits.

Grafting Mulberries and Roses.—D. H. S., Iona, Mich. Mulberries can be successfully grafted on mulberries, but not on apples, nor can apples be grafted on the mulberry. Roses can be grafted on roses, but not on peach, apple or plum. The cultivated kinds of roses that are grafted are generally worked on native or foreign strong-growing native roses. It is generally used for the purpose of giving a weak rose a strong growth. Our native roses can be grafted or budded with the cultivated kinds. Some of our nurseries make what they call tree-roses by grafting or budding native kinds several feet from the ground. The foreign roses most commonly used for stocks are known as manetti and dogrose. Manetti is most commonly used.

Cottony Maple-scale.—A. D., Ozone Park, N. J. The cottony looking insect covering the maple branch received is known as the cottony maple-scale (*Pulvinaria innumerabilis*). It attacks many kinds of trees, but most frequently the maples and box-elder. Upon their branches, small tufts of white cottony matter can be seen, which, when touched, are found to be sticky, drawing out and sticking to the fingers like a spider-web. This material is the egg mass. By closer investigation at one end may be seen a brown or black leathery disk about one eighth of an inch in diameter, which is the body of the insect, which secretes the white mass of fibers containing from one to two thousand small pink eggs. The young lice emerge in early summer, and are quite active for awhile, and at this time may be carried about from tree to tree in various ways. Soon, however, they settle down and insert their beaks in the bark or leaves. At this time it is thin and flat and so near the color of the plant as to be scarcely discernible from it. Gradually a waxy and waterproof coat is formed. The males live until August, when they emerge, having changed to pupa inside the larval skin, copulate and soon die. The fertilized females continue to grow until autumn, when they migrate from the leaves to the twigs and remain all winter. In the spring their bodies enlarge and the eggs are rapidly developed and are laid from the middle of May into July. The remedy is kerosene emulsion, made in the proportion of one part emulsion to fifteen of water. It should be applied late in May or early in June, when the young are hatching and still unprotected by a waxy scale. Many of the lady-bugs destroy them.

Apple-blight—Plum-pockets—Book on Strawberry Culture—Fertilizer for Apple-trees.—F. R., Nepesta, Col., writes: "Is there any remedy for blight in apple-trees? There are two kinds of blight in our orchards. One is 'blossom-blight,' the other 'limb-blight.' The 'blossom-blight' strikes a twig bearing a bunch of bloom and just after the flowers have fallen; it kills it. The leaves on the twig all curl up and turn black. The 'limb-blight' starts in the top of the tree on a small twig or limb, which turns black and dies. The blight then follows the limb down toward the trunk of the tree. Some people say it will finally kill the trees. There never was any blight here before last year. Do you know any remedy for either kind of blight? What do you think causes it?—Lately, in passing a thicket of wild plums, I noticed some of them greatly enlarged and of a yellow color. Upon pulling some of them I found them hollow on the inside. The plums, when about half grown, began to swell and turn yellow. There is no place on them to indicate their being stung by an insect. The plums smell just like fresh fish. Do you know what it is, and the remedy?—Will you please tell me where I can get a pamphlet or treatise on strawberry culture, and cost?—What is good to put around apple-trees to make them strong, vigorous and healthy?"

REPLY:—There is no practical remedy for what is known as fire-blight in apple-trees. This blight attacks the fruit-spurs and also the young growth. The best treatment for it is to cut off the diseased portions as soon as seen. Some varieties are much more subject to it than others, and the disease can be largely avoided by planting those kinds most exempt. It is caused by a minute vegetable parasite which lives in the tree from year to year. In the autumn of the year the diseased wood has small pustules on it, from which comes a seed-like formation that reproduces the disease. The disease of the wild plums to which you refer is known as "plum-pocket." It is very common in the West, and is occasionally abundant in the East. This, too, is caused by a fungous disease, the botanical name of which is *Taphrina pruni*. The mycelium of this plant lives over winter in the twigs and buds, also in the diseased fruit. The remedy then is to destroy the diseased fruit and cut back the diseased trees quite severely, destroying all parts cut off. It is quite a difficult disease to combat, and you will find that some varieties are much more liable to injury from it than others. You can get a pamphlet treating on strawberry culture of Orange Judd Publishing Co., of New York City, for 25 cents. What will make apple-trees strong, vigorous and healthy depends very much upon the circumstances. A tree may be weak from insects which injure the foliage or the roots. It may also be weak from fungous disease that injures the foliage or roots, and it may be weak from the poverty of the soil or from the soil being too hard and too dry. Where the soil is as good as it generally is in your section, probably the best treatment for apple-trees is thorough cultivation of the soil, the use of stable manure and keeping the foliage free from injuries.

Our Farm.

POISON-IVY.

POISONOUS CHARACTER.—No plant of the United States is more popularly recognized as harmful to man than this. Its effects are familiar to every one, and as its victims far outnumber those of all other plants combined, it has come to be regarded as the poisonous plant of America. Until recently no one was able to tell how its effects were produced or to what principle they were due. At the beginning of the present century it was supposed to be a vapor or exhalation from the plant; then, with successive stages in the development of chemistry and biology, it was attributed to a specific gas, a volatile alkaloid, a volatile acid, and to bacteria. Experiments seemed to verify each of these ideas in turn, but that all were erroneous has recently been shown by the discovery that the poison is in reality a non-volatile oil. In January, 1895, Dr. Franz Pfaff, of the Harvard University Medical School, announced this discovery. The oil has since been purified and named toxicodendrol. It is found in all parts of the plant, even in the wood after long drying. Like all oils, it is insoluble in water, and cannot therefore be washed off the skin with water alone. It is readily removed by alcohol. Alkalies saponify it, and thus render it inert, but the oil is very much more easily destroyed, as Pfaff has shown, by an alcoholic solution of the sugar of lead (lead acetate).

EFFECT OF THE POISON.—Numerous experiments show conclusively that the oil produces precisely the same effect as does the plant itself. When a very minute amount is placed upon the skin it is gradually absorbed in the course of a day or so, and within certain limits the effect is proportional to the time of contact. In an experiment performed by the writer the oil was applied to four places on the left wrist, and these were carefully guarded to prevent spreading. At the end of an hour one of the spots was thoroughly washed by successive applications of alcohol; in three hours the oil from a second was washed off in the same manner, and the others were cleansed three hours later. There was little or no effect on the first; that on the second was more marked, but did not equal that produced on the last two, which was about the same in each. The spots were within an inch of each other, but remained wholly distinct, a fact which very clearly shows that the affection is not spread by the blood. Subsequent applications of an alcoholic solution of sugar of lead gave speedy and permanent relief.

REMEDIES.—In practice it is not desirable to use strong alcohol, which is apt to be too irritating to a sensitive surface, but a weaker grade of from fifty to seventy-five per cent should be preferred. To this powdered sugar of lead is to be added until no more will easily dissolve. The milky fluid should then be well rubbed into the affected skin, and the operation repeated several times during the course of a few days. The itching is at once relieved and the further spread of the eruption is checked. The remedy has been tried in a large number of cases, and has always proved successful. It must be remembered, however, that the lead solution is itself very poisonous if taken internally.

Much has been said in regard to the relative poisonous character of these three plants. It has been generally claimed that the poison-sumac is the most poisonous, and that after it comes, first, the poison-ivy, and then the poison-oak. These conclusions were arrived at from the occasional experience of individuals who were poisoned by handling one species when supposedly immune to others. Experience teaches, however, that immunity is somewhat variable in the same individual, and therefore these general statements cannot be accepted without more careful experimental evidence.

RESTRICTIVE AND PREVENTIVE MEASURES.—It is highly desirable that legal measures be adopted compelling the destruction of these plants where they abound in places of popular resorts. This can be managed without much danger from the poison, and is a matter of very general public interest. As has just been noted, many individuals are practically immune from the effects of toxicodendrol. Advantage should be taken of this fact to employ

such individuals to remove these plants from the vicinity of dwellings and from playgrounds. Much of the work would be purely mechanical, consisting in rooting the plants up by main force. This is the most certain method; the use of concentrated sulphuric acid is attended with less danger, as the plants do not need to be touched. Half a teaspoonful should be applied to the stem every two or three weeks in the springtime when the plant is growing most vigorously. Care should be taken to keep the acid away from the skin, as it is most highly corrosive. The brush should in no case be left upon the ground nor used for fuel, and in burning it in the field pains should be taken not to inhale the smoke nor to handle the wood any more than necessary.

The greatest care should be exercised in preventing workmen from transferring the oil from their clothes and hands to other individuals. To accomplish this object special suits should be worn, and the hands should be washed several times a day with the alcoholic sugar of lead solution described above. Bathing in hot water with strong soap-suds is also strongly recommended. The clothing must also be well washed, and it is always well to remember that towels may be a means of conveying the oil.—From United States Department of Agriculture bulletin, "Principal Poisonous Plants of the United States."

SPRAYING FRUIT-TREES.

Five years ago I planted three hundred pear-trees, and one year later added two hundred plum-trees. These trees grew nicely, with few exceptions. I noticed that something attacked the young, tender leaves before they were even half grown. I felt very much worried over it, especially as I could detect no enemy, and I concluded that some fungus was doing the mischief. I was bound to prevent a repetition of the trouble, and commenced warfare against the invisible enemy. When the fruit-buds were just about ready to open on both the pear and plum trees I sprayed them. The mixture used was a sulphate of copper solution.

My sprayer is a barrel sprayer, the barrel standing on one end. I have done my spraying so far from a common one-horse wagon, and for a not very extensive business it answers all the requirements. It did bother me for awhile to keep the barrel in a secure position when driving, especially over rough ground, and I experienced several mishaps, till I hit on a contrivance that works to perfection and holds the barrel in place. I had a chain-hoop made the size of the second hoop of the barrel, and then had four rings put in at equal distances. When this hoop was properly adjusted to the barrel, these rings gave an opportunity to hook the other chains into and fasten the barrel solidly to the wagon-box. Two blocks were tacked down, to keep the barrel from sliding about; so now I can drive along even on a hillside without danger of upsetting the spraying outfit.

When spraying my young trees I do not need an assistant, but can do the work of driving, pumping and directing the nozzle just as well alone. At the first spraying, while the trees are as yet bare of foliage, I can hit every spot from one side of the tree. Later on, of course, when the leaves are fully out, I drive along each side of each row of trees, so as to be sure of doing thorough work.

When pruning the trees in the month of February, I tried to keep close watch on those little clusters of moth eggs which appear like little swellings on the twigs here and there, and whenever I discovered any of them they were clipped off, and found a temporary lodging-place in my coat-pocket, later on to be cremated. While doing the spraying from the wagon I noticed I had missed some, and the little things had just hatched, but had not spread as yet. I easily crushed them between my fingers, and in many cases did not even have to suspend my spraying.

The little caterpillars develop quite rapidly. They generally locate in a crotch near the hatching-place, and spin a white nest. Of course, the sooner they are destroyed the less damage they do. An easy way to wipe them out of existence is this: Load the shot-gun with a charge of powder, no wad, hold the muzzle of same to within three feet of the caterpillar-nest, and fire. It proves efficient in every case, even after the caterpillars have become one inch in length. It will pay to make the

round every week for some time to come, for all do not hatch at the same time. Look sharp, in the apple orchard particularly. It is a sorry sight to see an otherwise well-grown, thrifty tree completely stripped of its foliage, when it may be prevented so easily.

F. GREINER.

SCAB IN HEADS OF WHEAT.

The season, which has been so favorable to many kinds of crops, has also developed to more than usual prominence a number of fungous diseases. Many fields of wheat that just before ripening promised a good yield have suddenly been struck with a kind of blight that kills the heads or parts of them and renders the grain worthless. The part of the head affected is easily detected at this time, as it turns prematurely white, while the healthy part remains green. The kernels become shriveled and soon look moldy.

This injury is so considerable in different parts of the state that farmers are alarmed, and have accused the wheat-midge and greenfly of causing the damage. It is not due, however, to any insect, but to a minute fungus that attacks the wheat heads at the time of flowering. The spores of the fungus blow through the air, lodge on the delicate parts inside the flower and soon penetrate the kernel and envelop it with a mesh of moldy filaments which sap the life of the kernel, and forming new spores spread the disease to other flowers and throughout the field. Looked at carefully the heads appear pinkish from the abundance of the slightly colored spores. The disease is very appropriately called "wheat-scab."

Although there is no known remedy for this malady, in fact, it has not yet received as much study as its importance warrants, yet one or two precautionary measures have come to light and should be borne in mind. It is observed that some varieties are less subject to scab than others, and that fortunately these include some of the old substantial varieties. On the experiment station grounds at Lafayette, the varieties Velvet Chaff, Early Ripe, New Hybrid Prolific, Harvest King and Michigan Amber showed almost no scab this season, while other varieties were much injured; for example, Oakta Chief had twenty-five per cent of the heads affected; Diamond Grit, forty per cent; Pedigree Giant, sixty per cent; White Golden Cross, seventy-five per cent, and others in intermediate amounts. By taking into account the date of ripening, however, it is seen that all varieties that ripened with us before July 1st are almost or quite free of scab, while those which ripened later are all more or less affected. This agrees with the observations of previous seasons.

At present the best measures against scab are selection of early varieties, and hastening maturity by early seeding, good culture, and similar methods. Nothing can be done to mitigate the injury after the scab shows in the field.—J. C. Arthur, Bulletin Indiana Experiment Station.

A GOOD TREE-LABEL.

Tree-labels in great variety have been brought before the public, but not one has proved satisfactory in every particular. Zinc strips do not long retain the pencil-marks made upon them, are inconspicuous, and when wetted by any of the copper sulphate solutions used in spraying are destroyed entirely.

Labels made from thin sheet-copper, to be written on with a style or sharp point, are by no means indestructible, as is often claimed. After a single winter's exposure they will often leave nothing but the eyelet through which the fastening wire passes.

The Cornell tree-label is the most satisfactory label yet brought to the writer's attention. This is made at home from nurserymen's six-inch package labels, which cost about \$1.30 a thousand, and heavy galvanized wire. The wire is cut in eighteen-inch lengths and the ends turned to form small hooks. The wood label is fastened at the center of the wire by twisting the latter. The record is written upon them with a soft pencil, after which they are dipped in a thin paint made from pure linseed-oil and white lead, and hung up. At first the writing is obscure, but soon becomes legible from the dripping away of the excess paint. The writing is indelible, and the label being white is easy to find. Should the wood become gray from age, it may be repainted by dipping it in the paint without removing it from the tree.

These labels are hung on conspicuous limbs, the hooked ends of the wire being bent together with pliers, thus insuring their non-removal. The loop is large enough to allow for the growth of the branch. They must not be painted with a brush, since the pencil-marks would thus become blurred. When properly made they are very durable, conspicuous and satisfactory.

M. G. KAINS.

CORRESPONDENCE.

FROM FLORIDA.—Green Cove Springs, Clay county, has long been famous for its beautiful spring known as the "Fountain of Eternal Youth," of Spanish fame. The waters are highly valued for their medicinal properties. The St. Johns river is five miles wide here, and of sufficient depth to allow ocean vessels to sail upon it. It is one of the pretty rivers of America. The city has a fine large courthouse and jail, built of brick; six large winter hotels, the largest of which is the "Magnolia," with a capacity for accommodating six hundred guests. The J. T. & K. W. railroad and the St. Johns river furnish means for transportation. This is decidedly a fruit and vegetable section. Pears, peaches, plums, grapes, Japan persimmons, strawberries, blackberries, huckleberries, blueberries, melons and all kinds of vegetables are plentifully grown. This is a fine poultry section, and eggs command a good price all the year round. Bees are also quite profitable, and make an excellent combination with fruit-growing and poultry-raising. The soil is quite sandy, but in many parts underlaid with clay. The natural timber is pine, oak, poplar, magnolia, bay, beech, gum, hickory, wild cherry, mulberry and others—principally pine. The climate is delightful, the thermometer rarely reaching as low as twenty degrees above zero, and seldom going above ninety. A delightful breeze is nearly always blowing, thus making this the ideal climate. Many northern people are coming here and buying homes, and the large orchards of pear and peach and the vineyards set out the past few years are beginning to show what the future will bring. Taxes are very low, mine on twenty acres being but twenty cents, with fully twelve acres cleared and planted. The tobacco crop is just now being pushed as a leading industry. The great amount of outdoor exercise one can get here makes it the ideal climate for persons troubled with catarrh, weak lungs, or pulmonary ailments generally. The health is very good.

D. D. S.

Green Cove Springs, Fla.

FROM WYOMING.—We are having fine weather here in the North Platte valley—warm pleasant days and cool nights. The range is in fine condition, and stock of all kinds are doing well. Alfalfa will make a good yield; wild hay is hardly up to the average. The streams are running low from lack of snow in the mountains. Our staple crops are hay (alfalfa and wild) and potatoes. Markets are good here at present for all kinds of produce.

L. R.

Saratoga, Wyo.

FROM KANSAS.—The wheat here was badly rusted; oats not quite so bad. Potatoes, clover, timothy, alfalfa and native grasses are fair crops. Land ranges from \$15 to \$60 an acre, according to location, nearness to market and improvements. Corn is selling at twenty-four cents a bushel; was thirty cents at high price two months ago.

K. E. T.

Sabetha, Kansas.

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Our Farm.

HINTS FOR THOUGHTFUL FARMERS.

PROPER PRUNING.—I am surprised at the little thought used in the pruning of trees, particularly of orchards. It is almost invariably true that the large limbs are cleaned of bearing twigs for a long distance from the trunk; and on the ends of these limbs you find thick tufts of branches. The result is that the tree covers two or three times the area that it should. It does not bear as large crops as it might, if properly pruned. And the thick tufts at the end are sure to produce too much fruit in a bunch, much of which will be inferior, while the moths have every advantage in laying their eggs in the shady corners. A true orchardist has an idea of what he wishes his orchard to be when he plants it, and each year's pruning only helps to shape the ideal tree. There are no twenty-foot limbs without a branch, bud or apple; but the tree is carefully opened to the air and light, and presents a bearing surface throughout the whole. Especially be careful to thin out the thick tufts of branches and twigs as they form. I have said nothing of removing suckers, because a decent horticulturist will, at all events, attend to this matter. Not one orchardist, however, in twenty but is devitalized by this very negligence; and then we are told that apple-trees are shorter lived than in the days of our fathers.

BIRDS.—I am glad to see that the ministers are taking up the habit of preaching on our obligations to the birds. Rev. Jenks Lloyd Jones, of Chicago, has led off bravely for our feathered friends. Recently Hugh O. Pentecost preached in New York City on "The Useless Slaughter of the Birds." He said, "If God meant women to wear feathers he would have feathers grow on them. Women are beautiful without feathers. Their beauty should be of the mind, the character, the soul. Some of our presidents have been bird-killers, and one has been arrested for shooting birds against the law. Birds are our brothers and sisters." The same intelligence, life and love that is in us is in them. Any cruelty practised on the birds we suffer from, although we may not know it.

BLACK-KNOT.—Among all the pests from which we have suffered not one has been more provoking than the black-knot. And yet no one can be more successfully handled or more easily eradicated. After your own trees are thoroughly attended to, but your neighbors insist in indulging the knot, it will send its spores over annually on your trees. When a tree is thoroughly infested, cut it down. There is no necessity for burning the knot if the tree is cut later than April. The spores take their propagating period in late winter and very early spring. I go over my trees immediately after the fruit is picked in the fall, cutting out every trace of the knot; and then again make a more thorough examination after the leaves have fallen for winter.

TRAINING CHILDREN IN HORTICULTURE.—I hold it to be one of the most important duties of a landholder to encourage his children, as well as educate himself, by each year undertaking the growth of some branch of seedlings. Each boy might have his own department according to his taste. You will be surprised to see the influence which such a plan exerts upon the larger part of boys and girls. With hardly an exception enthusiasm is kindled in the grand work of gardening, and a passion created for country life. Add to this the probability that you will secure many new and valuable things of which you will be proud, and from which you may secure quite an addition to your income.

GRAPE CULTURE.—A question reaches me concerning grape culture. The writer wishes to know how far apart to plant his trellises? I would say let them run north and south, if possible, and stand ten feet apart. Between the rows I would grow currants and gooseberries. How far apart grapes should stand in the row depends entirely in the method of pruning adopted. I always plant two-year-olds, and am reducing my varieties to half a dozen of the most valuable. For home use nothing can surpass Worden, Brighton and Niagara, grown alternately—and these are the best for market.

E. P. POWELL.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hammonton, New Jersey.

MOLTING OF BREEDING FOWLS.

Never fatten the breeding stock, whether of fowls or animals, as the best young are produced by dams that are not very fat. If young fowls are desired from certain hens, it will be best to select the hens and separate them from the others. Feed them very moderately and make no effort to induce them to lay. Do not put the male with them, but keep him away from the hens until the time arrives for mating the fowls, which should be about February. A good start with the young stock means choice adults, and it is only by selecting the hens that are to produce eggs for hatching purposes that the results desired can be obtained. Do not overlook the fact that hens for breeding are not to be kept in the same manner as hens for laying. Some hens will begin laying in the fall, lay on through the winter and during the summer, losing no time until August or September, when they begin to molt. But molting is loss of time with such hens, as they receive no credit for their services. If they set an example of usefulness they lead their owners to expect them to so continue, and as soon as they fail to keep on their heads fall under the hatchet for simply resting from their labors, while the fat drone hens that have been expected to begin are retained a second year in the hope that they will soon do better. Individual merit is swallowed up in the vices of the whole. It is the time of year that the hens molt which influences them in giving a profit or entailing a loss, and in considering the period of the year when the hens should molt several other matters are also connected therewith. In fact, the farmer has it in his power to hatch his pullets at a time of the year when they will molt sooner or later, as he prefers. For instance, a pullet does not molt, in the general sense of the term, the first year, as only "hens" molt, and a pullet is not a hen until she is a year old (though that depends on the breed, as small breeds mature sooner than the large ones), and by hatching the pullets early they will molt early, when the time arrives for such process. If a pullet is hatched in March (if a large breed) she will begin to lay about November, lay through the winter, and commence molting about June, taking July, August and a portion of September for the process; but she will have her new plumage on and be ready for laying by October or November, and then start in as a winter layer. If she does not begin to molt before August or September she may not finish before Christmas, and then she will wait until the month of March before beginning to lay. Thus, by hatching the pullets every year as early as the first of April (not later for the large breeds), they will lose only three months; but if hatched later they will lose from five to six months, because they are caught in the molting stage during cold weather. If the small breeds are used they should be hatched before the first of May. These facts are important ones to know, for it is a matter of importance whether the farmer's hens are to give him six or seven months' service or nine, and if the flocks are large the difference in the length of service will have a marked influence on the profits. Perhaps but few farmers connect the hatching of pullets with the molting, but upon these two matters depend success or failure with poultry.

FEATHERING OF YOUNG POULTRY.

Until young turkeys, geese, ducks and chicks are fully feathered they are more or less liable to cold rains or sudden changes. During the period of feathering they are also weakened in proportion to the rapidity of the growth of feathers. Their bodies are non-protected until well covered with sufficient feathers to retain warmth and shed water. A gosling or duckling, if allowed on a pond of cold water while its body is covered with down instead of feathers at any season of the year, would soon perish from cold, but after feathers take the place of down they can endure more cold and hardships. Young poultry that are tender when very young, such as turkeys and Dorkings, are sooner weakened by lice and rapid growth of feathers than some other kinds, but after passing through this danger period are

hardier than those that feather more slowly. In raising young poultry, therefore, give them careful attention until they are fully feathered. Some may require but a short time, and others longer, but after they are feathered they will need only such care as would be required for adults, and will often thrive better if then compelled to scratch and work for all they receive.

GEESE AND DUCKS IN SUMMER.

Geese continue to bring out an annual brood of goslings until quite aged. Instances are known where a pair of geese have produced young every year for twenty years. They seem to be subjected to no diseases, death resulting from an old age, accident or the hand of the owner. On many farms they are not fed, except in winter, yet they are nearly always fat and ready for market. Old geese are never sold, however, only the yearlings being shipped. Geese do not bring as good prices as turkeys, but they really cost nothing if given a good range, and pay a fair profit. The best way to manage adult ducks that are to be retained as layers for next year is to turn them on grass and give them no food until cold weather comes. They will be all the better for such treatment than if fed and forced on grain. Both geese and ducks are excellent foragers and will secure all the food they desire in the shape of grass and insects, and will keep in excellent condition. They will require a plentiful supply of water, however, and if they have the privilege of the fields, will take good care of themselves without assistance and be fat and plump in the fall.

KEEPING FOOD IN THE TROUGHS.

When the fowls are fed in a manner to save labor for the owner the flock soon ceases to pay. This is especially true when grain is put in a trough and placed where the fowls can eat at will. They will not seek food, but will keep their crops full, getting heavier every day and laying but few eggs. By keeping grain before the hens the cost of the food is also increased. Whenever one begins to save labor in that manner he demonstrates that sooner or later he will become disgusted and abandon poultry altogether. It has always been a custom to associate the hens with plenty of grain, but the use of grain depends on the season of the year. During severe cold weather, when the heat must be created to combat the low temperature, grain should be an important portion of the ration, but at all times it should be given at regular hours and in connection with other foods. A hen cannot produce eggs on grain alone, except for a limited period of time, and when she has a full trough of grain always before her she will soon reach a condition when she will bring a good price in market and lay no eggs at all.

FOOD FOR GROWING TURKEYS.

Young turkeys should now be far enough advanced to be beyond the danger stage, and they will thrive admirably on a range. To keep them in growing condition and induce them to come up every evening they may be given one meal a day, which should consist of cooked cake, composed of two pounds of corn-meal, one pound of middlings, one pound of ground oats, one pound of ground wheat and half a pound of linseed-meal. They will relish such a mess and will grow rapidly.

USE OF TONICS.

The practice of giving tonics that consist of iron solutions, copperas and such should be abolished, as they do more harm than good. Bear in mind that a healthy fowl requires nothing but good and wholesome food. If the fowls do not thrive, the best remedy is to reduce the food and give a variety. Tonics are good enough in their place when the fowls are not thrifty, but otherwise they will cause the very difficulties which are sought to be avoided.

DRY EARTH IN SUMMER.

There is nothing so plentiful and so cheap as dry earth in summer, and it should be used freely. Shovel it into the poultry-house, so as to absorb the droppings, throw it freely on the roosts and into the nests, and spade up places in the yard, so that the hens can always have a dusting-place, as dry dust is just what the fowls require to rid themselves of lice.

OPEN POULTRY-HOUSES.

One of the drawbacks in the way of those who keep a few fowls in the suburbs or on a limited area in the country is the exposure to which the fowls are subjected during very warm days when there is no shade in the yards. The poultry-house will provide shade, but the warmth inside will be almost unbearable and the fowls will not remain therein. An open shed or a piece of muslin across the yard will prove of assistance, the cost being but little.

CORRESPONDENCE.

THROAT DISEASES CONTAGIOUS.—An examination of my hens' throats discloses slight ulceration. Three years ago a lady in California told me of similar ailment among her hens. She gave as her opinion the fact that some of her family were afflicted with cough and that her hens frequently ate the sputa. As some health authorities in California cities are enforcing rigid rules against consumptives spitting on the sidewalks I thought there might be ground for the same opinion.

P. S. G.

INQUIRIES ANSWERED.

Space in Yards.—J. C., Hancock, Mich., writes: "How many chickens would be advisable to keep in two yards, three hundred square feet each; Light Brahmas or Buff Cochins?"

REPLY:—The rule is to allow at least one hundred square feet for each in the yard; hence about thirty hens in each yard would be a sufficient number.

Hens Eating Eggs.—S. S., Collins, Neb., writes: "I desire a remedy to end the fault of my hens eating their eggs. Can it be prevented?"

REPLY:—It is a habit or vice that is acquired, due to an egg being broken, one hen teaching the others. Make a nest with a top (soap-box), open at one end, the nest raised ten inches from the ground. The hen cannot then reach the eggs from the ground, and must walk into the nest to lay.

Hens Not Sitting.—C. B., Antwerp, Ohio, writes: "Please give the cause of hens not sitting long enough to hatch, and the lice not bothering enough to prevent. I have good hens to lay, but for the last two seasons I have had trouble with them not sitting long enough to hatch until very late in the season."

REPLY:—It is probably due to warm location of nest, and an examination may show the presence of lice.

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Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Hotbed-making.—C. L. B. W., Baltimore, Md. Several requests for information on hotbed-making have been received. I will try to give a full information on the subject a little later in the season.—T. GREINER.

Wild Turkeys.—Mrs. S. H., Ramsay, Ill. I have not yet succeeded in getting the wild stock of turkeys, and consequently cannot tell of my experience. Would like to hear from readers who have had them.—T. GREINER.

Potato Diseases.—J. R. A., Stuttgart, Ark. Request the Secretary of Agriculture, Washington, D. C., to send you Farmer's Bulletin No. 15: "Some Destructive Potato Diseases; What They Are, and How to Prevent Them."

Tanning Hides.—N. W., Littleton, Col., writes: "Please tell me how to remove the hair from a calfskin so as not to injure the hide, and what to put on to make it pliable to be used for plating."

REPLY:—To tan for thongs, scrape all the flesh and fat off the skin; bury it, well spread out in wet ashes, for a day or two, or until the hair starts readily; then remove the hair and wash thoroughly. Make a tanning solution by dissolving a large handful of pulverized alum and two handfuls of common salt in a gallon of water. Soak the skin in this and pull; rub and stretch while drying. The leather will be soft and will make good lashes as long as kept dry.

VETERINARY.

Conducted by Dr. H. J. Detmers.

To regular subscribers of FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE:—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered under any circumstances.

Puerperal Paralysis.—B. D., Sabula, Iowa. Please consult FARM AND FIRESIDE of July 15th.

A Fistulous Frog.—A. H., La Fayette, Ind. Tell your neighbor to have his mare examined and operated on by a competent veterinarian.

Looks Like Tuberculosis.—A. B. McN., Pine Level, Fla. According to your description the disease of your cow looks like tuberculosis. Please consult answer given to F. K., Linden, N. J., in FARM AND FIRESIDE of July 1st.

A Declining Cow.—N. E. W., Plessis, N. Y. Your cow undoubtedly suffers from a chronic disease, and I advise you to consult answer given to F. K., Linden, N. J., in FARM AND FIRESIDE of July 1st, which probably applies equally well to your case.

Bad Sores.—J. A. D., Cloverdale, Va. You will not be able to bring the sores you describe to healing unless you are able to keep off the flies. Try liberal applications of a five-per-cent solution of creolin in water, and make them three or four times a day.

Probably a Morbid Growth.—A. E. P., Valley Center, Kan. Your mare, according to your description, has probably a morbid growth or tumor, or else possibly a foreign body, in the left nasal cavity. Illuminate the nasal cavity with the rays of the sun thrown into it by means of a small mirror, and then look into it and make your examination, or else have her examined by a veterinarian.

Bad State of Health.—S. L. B., Waldrop, Va. If, as you say, the appetite of your horse is good, it is not probable that his bad state of health is caused by any serious digestive disorder. I would much sooner suspect the existence of a serious disorder in the organs of circulation or of respiration, but beyond that I have no opinion to offer, because your communication does not contain anything further upon which a diagnosis can be based.

Diarrhea.—E. C. H., Canaseraga, N. Y. Such a profuse diarrhea ("terrible looseness of the bowels") as your cow is suffering from presents itself in cattle very often during the last (fatal) stage of a cachectic disease. Still, as you give no other symptoms, and only state that the cow has a terrible looseness of the bowels, lacks appetite and is getting very poor in spite of good food, I cannot advance a definite opinion, and advise you to have the cow examined by a veterinarian, if she is yet alive when this reaches you.

Exostoses.—C. B., Compton, Cal. The swellings you describe are exostoses; that is, enlargements of the bone caused by an injury to the periosteum or membrane coating the external surface of the bone. The same are not apt to grow any larger if left alone and not irritated; on the contrary, the first porous swellings will contract in the course of time by gradually becoming more dense and solid, and thus decrease in size. Therefore, as these exostoses do not cause your filly to be lame, I advise you to leave them alone and to avoid any irritation.

Lame Cow and Calf.—A. McD., Lane, Kan. You say your cow and calf have been lame over a month, and that you cannot find the seat and the cause of the lameness. How can you expect me to be able to tell you where and from what causes the animals are lame, if you do not give any description of the lameness, except that the cow sometimes holds up her foot when in the lot, and that the calf is lame in a similar way, notwithstanding that the lameness of the one animal is in a fore leg and that of the other one in a hind leg or foot? I can therefore only advise you, if you cannot find anything capable of causing lameness, to have both animals examined by a veterinarian, and to ask him to pay special attention to the cleft between the hoofs.

Died After Castration.—J. C. C. Tiller, Ark. If you had made a post-mortem examination of your dead colt you would have found the cause of death. If the second testicle, removed six weeks later than the first, was rather small and the operation performed with an ecraseur, a very objectionable method, it is possible that the cord slipped back into the abdominal cavity, commenced to bleed, and thus caused the animal to die of internal hemorrhage. It also may not be impossible that instead of the testicle something else was mistaken for it and removed in its place. Still, these are only possibilities. As I said before, if a careful post-mortem examination had been made, the cause of death undoubtedly would have been revealed. It is too late now to find it out.

A Lame Mule.—W. R. C., Union Grove, Ala. Although you do not say a word about the peculiarities of the lameness of your mule, and thus make a reliable diagnosis an impossibility, I have a suspicion that your mule is badly spavined. But however that may be, you can never expect any lameness to disappear or even to improve unless the lame animal has the strictest rest. Compare answer given to D. J. E., Sedalia, S. C., in FARM AND FIRESIDE of July 15th. What you propose to do to the healthy leg of your mule, to compel the same to use the crippled leg, would subject you to prosecution for cruelty to animals in any civilized country. The swelling on the shoulder of your mule can be removed by a surgical operation, but as long as the animal is unable to walk except on three legs, it is immaterial and it may be left alone.

Bitter Milk.—H. K. S., San Jacinto, Cal. "Bitter milk" may have two different causes. One consists in feeding the cows spoiled, decayed or rotten food, particularly spoiled clover and clover hay (alfalfa included), decaying garden truck, etc., and in feeding substances rich in bitter constituents passing over into the blood and consequently into the milk. In such cases the remedy, of course, consists in thoroughly changing the diet of the cows and in feeding no food but what is sound and faultless. However, there are also cases in which the milk is faultless and perfectly (and in every respect) normal when drawn from the udder of the cow, and afterward becomes bitter and abnormal. In such cases the change is due to an invasion of micro-organisms, and the remedy consists in a most thorough cleaning and disinfection of the milk-vessels and of the premises in which the milk is kept.

Probably Lung-worms.—H. M., Lower Newport, Ohio. Your hogs seem to be troubled with lung-worms (*Strongylus paradoxus*). As the worms have their seat in the finest ramifications of the bronchial tubes, where they are inaccessible, there is no remedy. If the hogs so affected possess sufficient vitality and vigor, are not too young, and the number of worms in each individual hog is not too large, the hogs may survive, but otherwise they will die. The best thing you can do to prevent a recurrence of this disease is to drain and to fill up the pond of stagnant water in your hog-lot, and to remove or burn, at least twice a week, all the rubbish that accumulates in the hog-lot. There can be hardly any doubt that the pond constitutes the hatching-place of the larvae of the lung-worms. If you neglect to do this, the disease next year will be worse.

Flies on Cattle—Dehorning.—E. R. S., Phoenix, Mich. As to your first question, please consult answer given to J. J. F., San Diego, Cal., in FARM AND FIRESIDE of July 1st. As to your second question, I regard dehorning as an unnecessary and uncalculated-for operation, which, on an average, is productive of more damage than good, unless the operation is performed by a competent person and on a very vicious animal; and such an animal I think should be prepared for the shambles as soon as convenient, and under

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no circumstances be kept for breeding. Dehorning is just now a fad, and it is useless to enter into a lengthy argument, and therefore will make only one remark: As long as cattle have horns, their only means of defense, men are apt to bestow upon them a more humane treatment, and if humanely treated it is exceedingly seldom that a cow is vicious; while on the other hand, it is ninety-nine cases out of a hundred the fault of the man if a cow is vicious.

Epizootic Ophthalmia of Cattle.—A. W., Derby, Kan. What you describe is epizootic, or infectious ophthalmia (inflammation of the eyes) or ceratitis of cattle, a disease which of late has become more and more frequent, particularly in hot and dry summers and among cattle grazing on dry and dusty pastures, fields, public highways and commons. The disease will lead to permanent blindness, where it causes abscess formation, and partial destruction of the cornea; but the eyesight, as a rule, will again be restored where such is not the case. In the beginning, or during the first stage, an eye-water composed of corrosive sublimate and distilled water, one grain of the former to every ounce of the latter, and to be applied three times a day by means of a so-called dropper, will be indicated. As to prevention, it stands to reason that it will be advisable to keep the cattle, if possible, away from all such places in which the disease is known to make its appearance.

A Lame Steer.—C. W. L., Plainview, Neb. You say your steer is and for three months has been stiff and lame, and that all four legs are badly swollen. If you make an examination you will probably find a condition similar to so-called scratches of long standing and subsequent incipient elephantiasis (hypertrophic and solid degeneration of the skin and of the tissues beneath) of horses. If such is the case, the disease was brought on by too much exposure to mud, water and dirt, and you may yet succeed in bringing the sores and cracks to a healing by making to all of them, two or three times a day, a liberal application of a mixture of liquid subacetate of lead, one part, and olive-oil, three parts, provided the diseased parts are not exposed to the influence of mud, water and manure. Whether or how much the swelling can yet be reduced depends upon the firmness of the swelling and the degree and extent of the degeneration, consequently it is doubtful whether the stiffness will fully disappear after all the sores and cracks have been brought to healing.

Defective (Oily) Cream and Butter.—M. D., Little River, Kan. There is nothing the matter with your cow, and you will probably find the milk all right immediately after it is drawn from the udder of the cow. The defect you complain of is due to an infection taking place afterward, perhaps in the premises where the milk is kept. The latter may be too hot and be lacking in proper ventilation, or may contain something else from which the infection proceeds, decaying vegetables or other organic substances, for instance. The only advice I can give you is to thoroughly clean and disinfect the milk-vessels and the premises in which the milk is kept, so as to get rid of the infectious principle; and then, if the ventilation of the premises is not what it ought to be, to see to it that the same is improved. That everything possibly able to harbor or to propagate the infectious principle must be removed may not need any mentioning. If it is possible to lower the temperature in the place where the milk is kept, it should be done also.

Incipient Elephantiasis.—H. F. C., Cogswell, N. D. What you describe seems to be a case of incipient elephantiasis, developed probably from an inveterate case of so-called scratches or grease. Any swelling that is firm and solid and cannot be made to disappear by exercise is in such a case of a permanent character, always genuine elephantiasis, and cannot be removed. The sores and small abscesses you can bring to a healing by making liberal applications twice a day of a mixture of liquid subacetate of lead, one part, and of olive-oil, three parts, but you may expect that new ones from time to time will make their appearance. As to your colt, there is a prospect that the crookedness in his legs will gradually disappear if the same is limited to the joints and if the young colt is well taken care of and receives an abundance of nutriment, but there is no prospect that the same will ever become a useful animal if the bones are bent or crooked, or if the young animal is neglected or the nourishment offered is insufficient.

A Free Summer Excursion TO LAKE OR MOUNTAINS



For every dairy farmer in America who has twenty or more cows. Sell four of the cows (the poorest ones). Use half the money received for a nice summer trip; with the other half buy a

SHARPLES DAIRY SEPARATOR.

The remaining cows and the Dairy Separator will make more and better butter than the full herd and no separator.

BRANCHES:
Elgin, Ill.
Omaha, Neb.
Dubuque, Iowa.

P. M. SHARPLES,
West Chester, Pa.

Contracted and Inverted Quarters.—A. R., Lakeland, Fla. The contracted and inverted quarters of your mare's hoofs, as you describe them, are the product of injudicious shoeing with shoes a great deal too wide in the heels (at the quarters), and of leaving them on too long or not resetting them in time. If the case is not too bad or too far gone, the hoofs may perhaps yet be restored to an approximately normal form. Get a horseshoer who has common sense and is familiar with the mechanism of the horse's foot, and let him pare away the lower border of the wall of the hoof as if for shoeing as much as he considers it safe, and then let the animal go barefooted for at least a year. If the ground is not stony, not rough and, as a rule, moderately moist (the season not too dry), occasionally a little more judicious paring may be necessary, while under opposite conditions the mare must not be worked and only have all the voluntary exercise she is willing to take. That the animal must not be kept standing in the stable may not need any explanation.

Several Questions.—J. F. M., Tillamook, Oreg. (1) There is no specific remedy for milk-fever (puerperal paralysis). (2) An accumulation of too much fat will decrease the yield of milk in cows. (3) If a calf presents a posterior presentation, the birth is about just as easy as if it is an anterior presentation, and if help is needed, the hind legs of the calf are taken hold of and a little pulling in the proper direction will bring it. (4) Maybe you caused the soreness by pricking and poking the teat with your milking-tube. If the teat contains milk, milk it out, but not prematurely; and if the quarter is indurated or barren, and the teat contains pus, cut it off, and then after the pus has been discharged, wash it out several times a day with a two to five per cent solution of creolin in clean water. (5) So-called "red water" is a symptom of several different, mostly infectious, diseases. Southern Texas cattle fever included. I therefore cannot answer your question. (6) It is very seldom that a diagnosis can be based upon one solitary symptom, especially if it is as common as "coughing," an attendant of almost every disorder of the respiratory organs. I therefore cannot answer your question.

A Cribber.—E. G. W., Springborough, Pa. Cribbing, or crib-biting, the same as wind-sucking, is a bad habit, of which it is next to impossible to break a horse, if the same has once acquired it. A great many means have been devised to prevent the animal from exercising this bad habit. Some of them, for instance, use a strap tightly buckled around the neck of the cribber, which effectively prevents it, but is more injurious to the animal than the exercising of the bad habit, while others, though very much uncommending or annoying to the animal, are more or less ineffective. It has even been recommended by one German professor to subcutaneously cut the omohyoid muscle, and by another one to subcutaneously cut the sternomaxillaris; but this remedy, too violent though it is, has only a temporary effect, because as soon as the ends of the severed muscle has become united the old vice is taken up again. In the beginning, when a horse first takes up the bad habit, it is possible to make him forget to practise it by employing him all day and every day for sufficiently hard work to make him tired enough in the evening to enjoy nothing but a good rest. All cribbers are not alike objectionable. The worst ones are those which take hold of the edge of the feed-box whenever they have a mouthful of grain, and thus throw away more than they eat. If one has such a cribber, he may try to make the vice disgusting to him by tacking a piece of sheepskin with the wool on over the border of the manger, or rather feed-box. Still, there are horses that will not mind the nasty sheepskin and overcome their disgust. The other means devised, none of which is in all cases effective, are too numerous to describe them.

Our Fireside.

A SONG OF THE CAMP.

"Give us a song," the soldiers cried,
The outer trenches guarding,
When the heated guns of the camp allied
Grew weary of bombarding.

The dark Redan, in silent scoff,
Lay grim and threatening under;
And the tawny mound of the Malakoff
No longer belched its thunder.

There was a pause. A guardsman said:
"We storm the forts to-morrow;
Sing while we may, another day
Will bring enough of sorrow."

"They lay along the battery's side,
Below the smoking cannon—
Brave hearts from Severn and from Clyde,
And from the banks of Shannon.

They sang of love and not of fame,
Forgot was Britain's glory;
Each heart recalled a different name,
But all sang "Annie Laurie."

Voice after voice caught up the song,
Until its tender passion
Rose like an anthem rich and strong,
Their battle-eve confession.

Dear girl! her name he dared not speak,
But as the song grew louder
Something upon the soldier's cheek
Washed off the stains of powder.

Beyond the darkening ocean burned
The sunset's bloody embers,
While the Crimean valleys learned
How English love remembers.

And once again a fire of hell
Rained on the Russian quarters,
With scream of shot and burst of shell,
And bellowing of the mortars!

And Irish Nora's eyes are dim
For a singer dumb and gory;
And English Mary mourns for him
Who sang of "Annie Laurie."

Sleep, soldiers! still in honored rest
Your truth and valor wearing;
The bravest are the tenderest,
The loving are the daring.

—Bayard Taylor.

'MONGST JUNE-BELLS BLUE

MAUDE MORRISON HUEY.



ALONG the narrow foot-path, where bushy sweet ferns matted their odoriferous green leaves with the purple-hooded balsms on either side, with yonder a spike of wild pinks flaunting a freshening bit of color beside the dull dustiness of a sage-green mullen, with here and there a gaunt prickly thistle sifting wavering bits of down to glisten in the sunlight, came Kate.

It was June, and all the glory of summer lay about her. Butterflies flitted up from the path about her feet, where they had settled to loll their wings lazily in the crystal quivering heat—butterflies, red, golden, bronze.

A brown-breasted thrush fluttered up from the shadows with a silvery salute, and from the heart of a murmuring rippling poplar eyed her curiously.

With white fleecy cloudkins in the blue sky throwing bits of grateful shadows down upon her straw hat, with the scent of countless untamed blossoms in her nostrils, and the soft fingers of the summer zephyrs brushing back her hair, it was good to be alive.

She hummed bits of melody as she moved along, swinging a basket from her hand rhythmically, and throwing back her head to inhale long breaths of the surrounding sweetness. The basket contained strawberries. There was no doubt as to its contents. Not alone a great gaping hole in one side of the paper covering, edged about as it was with sundry juicy daubs in various stages of stickiness, testified to this fact, but a certain suspicious redness about the lips of the bearer.

Now and then her song fashioned itself into words.

"Oh, blithe and merry pass the hours away,
And every moment grows my life more gay,"

her lips sang.

A great striped bee, dragged by his greed for sweets, dropped languorously from a bending honeysuckle-bush, and went slowly buzzing across her path. His passing called her attention to the flower. She sat down the burdensome basket, and, stooping, selected one of the red drooping blooms, the best one on the bush, and began pulling it apart, petal by petal, with relentless fingers, slipping the drop of honey, secreted in the bottom of each gold-lined cup, between her white teeth; this done, she lifted one of the curious trumpet-shaped things to her lips, and puffing her cheeks, blew upon it a shrill, squeaking blast that left her face rosy. Then she picked up the basket and moved along with dreamy, dragging steps, her feet cutting a swath

through the snarls of grass and wild creeping things that had reached out to join hands over the zigzagging footway.

This footway was a short cut to the village. It was scattered all along with nature's choicest. First, the smooth green of cultivated fields and cloverly pasture-lots, with here and there a yellow star-eyed daisy or pink-striped crane's-bill, to make you linger; a little rivulet singing in and out through tangled grass-roots, and a drooping elm-tree spreading grateful shadow midway; an old rail-fence, gray and lichened, showing white traces of feet; and beyond, the jungle of untilled lands, with mingling fern and flowers and bramble.

Kate always chose this path in summer-time to the more sober monotony of the regular road, partly for the sense of freedom and buoyancy that always came with nearness to nature; sometimes, perhaps, to please her vanity with a spray of bluebells or a wild rose for bodice or hair, sometimes to see Pete.

To-day her reason was none of these, though she had lingered a moment to pick an especially pretty spray of her favorite blue flower that seemed nodding invitingly from every obscure fence corner, and arrange them in the belt of her simple muslin frock. She wanted to pursue her meditations uninterrupted. She had no patience for the gossiping chatter of country neighbors, who would detain her over farm-yard gates, so she took the short cut. She would not woo intrusion upon her dreams by going around by the road.

Swinging the basket lightly, she stepped up on a worn log. Before her lay the well-tilled acres of neighbor Archer's farm. A faintly perceptible trail through the grass near the fence marked where her feet were accustomed to travel.

Through force of habit she looked about for Pete. He was sure to be somewhere in the fields, though she half hoped she might not see him; but even as the thought formed itself in her mind she caught sight of a commotion in the rustling young corn-blades at her right and a gleam of familiar blue that she knew to be his cotton work-shirt.

He was whistling. She stepped down and moved on softly. Perhaps he had not noticed her; but yes, when she reached the opposite fence that opened into the main road, he was there, leaning against the worn rails, with a smile of welcome.

"Hello, Kate!" he called, when she came within companionable distance, taking off his great flaring straw hat and doubling it into a fan.

"Ain't it hot?" he added, glancing reproachfully up at the sun and trying to edge nearer the skimpy shadow of a fruiting alder-bush. He ended his remark by pursing his lips up into a prolonged "Whew!"

"No, I think it's nice," she replied, the spirit of contradiction waxing within her. She moved steadily nearer, scuffling her feet as she came, and holding the basket before her with both hands, giving it rhythmical little pokes with her knees, maintaining blissful disregard for its contents. "Move along, please, I'm going to climb over."

"Who said you were?" replied the young man, with provoking coolness, stretching his big sinewy arms out along the rails detainingly. A gap in the blue sleeves above each buttoned wristband revealed the flesh, white and firm. But the girl's gaze had centered itself upon his hands; they were red and thick-skinned.

"Why don't you wear gloves?" she asked. "Oh, I don't know. It's too much hotter, I guess; besides, you know, the old saying is, 'A cat in gloves catches no mice.' I want the use of my great big paws; they're clumsy enough without gloves." He held one up inspectively, and slowly doubled and undoubled the fingers as if testing their strength.

They were clumsy. Unwittingly she had compared them to another pair, compared them disadvantageously.

"Well, you don't seem inclined to move," she said, with a small frown of impatience. "I'm in a hurry." She looked straight into his eyes, with her head tilted defensively.

"Are you?" he questioned, with slow mildness that irritated her. "I wish you wasn't. It's nice to rest here. Come over in this shade, I want to see what's in your basket. I can guess, though, without asking."

"You can't, either."

"Yes I can; it's berries. Just look at your mouth."

"It isn't black?" incredulously.

"But it's red. It's a sight. If you don't believe me, wipe it and see."

"No such thing. Where?" She pulled a wee white handkerchief from her belt and began rubbing vigorously, finishing with a spiteful dab at each corner, then held the handkerchief up for inspection. Its purity was sullied by a great ugly blotch.

"It isn't nice of you to tell me of it, Pete Archer," she retorted, with a show of temper. "It was ill-mannered and horrid. Keep out of my basket. You shan't have a berry to pay for your impudence. Come! are you going to let me pass?"

"There was a little girl," he began, in singsong tones, peering around into her face smiling, "and she had a little curl, right in the middle of her forehead. And when she was good—"

"Say, Kate, you're not mad, are you?"

making a playful reach for the brown lock that dangled saucily from underneath her hat brim.

"Yes I am, and I wouldn't be so small as to quote nursery rhymes," she retorted, with superior scorn. "Step out of my road, please, I'm going to climb." She placed her foot on the lower rail. He remained stanch.

"I don't believe you're in a hurry. You're putting on so you won't have to stay and talk with me."

"Well, and if I am?" she questioned, impatiently.

"You wasn't in a hurry when I saw you coming over the fallow a moment ago," he persisted; "you were lagging shamefully."

She ignored his arguing. With injured dignity she turned and went to another link of fence, and pushing her basket through under the bottom rail, deliberately clambered up and let herself down on the opposite side. She went on a few steps decisively; then, half repenting, turned and called "good-by" to him over her shoulder.

He had whirled about, and resting his elbows on the fence, and his chin in his palms, was watching her. She did not stop to note the disappointment that had crept into his eyes, only gave her soiled handkerchief a careless backward flit and passed on. He watched her till her white gown was only a cloud-like speck in the distance, then went reluctantly back to his work; but the tune he had been whistling was forgotten. Somehow there was no more blueness in the sky, no more glad joyousness in the whispering, nodding corn. He plodded on dumbly.

In the course of an hour he saw her returning; but she was not alone. He had expected this, yet the sight of it filled him with sudden pain. He was glad that when they skirted the long field he should be midway the rows of tall corn and sheltered from their sight.

For once Kate forgot to look for him. She was chatting merrily as she came along, toying a bit of flower in her fingers, with pretty grace; her companion, all ease and assurance, helping her considerably over rough places.

Once Pete looked at them. They were stooping to pull each a long-necked grass, and standing there, still with bowed heads, he knew they were "wishing with grasses." He noticed, too, the absence of bluebells wilting in the white bodice, and turned away with firm-set lips. The sound of their laughter came to him like a prophesy through the miniature forest of corn. When he looked again they were gone.

"Isn't it a delightful day?" asked the girl, as they, too, moved on together. "It makes one feel like dancing." She tripped lightly on one foot to the words.

"Yes, but so warm," returned her companion. "Let's rest a moment."

A long flat rock in convenient proximity seemed seconding the invitation. They were in the shadow of the great drooping elm, and June-bells were thick about their feet. A pair of soft-throated warblers flitted above them, musically.

"How do you always keep so cool?" he questioned her, pausing in his vain endeavor to increase the circulation of air with his stylish derby to view her admiringly. She had taken off her white hat and was swinging it recklessly by a bit of ribbon, while her other hand supported her chin in a pretty pose. The sun, filtering down through restless leaves, flecked with gold loose locks of her hair that floated rhythmically out with every pulsating breeze.

"Now, I'm sweltering," he went on, "and you, you are as fresh as a rose." He turned his head to look up into her face, and her eyes dropped shyly.

Pete might have made the remark to her repeatedly, and got for his trouble a bit of saucy railery; but now the red blood flew to her cheeks. She was silent. She reached down and pulled a bit of pink up from the grass and held it to her nose, confusedly.

With quiet authority he drew her hand down. "Is it sweet?" he asked, referring to the flower. "Let me smell?"

"There isn't any smell in it," she assured him. "I hoped there was. That wild-pea blossom over there is sweet, though. I wish you'd fetch it," pointing to a yellowish bud near the fence.

"Do you?"

"Yes, truly. Won't you, please?"

"And if I do—" He hesitated, looking into her eyes and still keeping firm hold of her hand.

"I'll put some fresh bells in your button-hole," she compromised, thoughtfully. "Those old ones are wilted." She reached up her hand to remove them, but he shielded them protectingly.

"Supposing I did not wish it? Supposing I should tell you I preferred these to any in the field?" There was a tender insinuation in the tones. She lifted her eyes suddenly and met his, and a wild-rose flush spread over her face and neck. The warblers tilting above their heads had begun a tune full of reckless joyousness.

As Kate walked home through the warm June noon her lips parted in an unconscious smile. She neither heard nor saw the sleepy sheep that scurried timidly from shadowy fence corners as she crossed the pasture-lot.

That evening through the dewy dusk Pete walked to the village. Just outside the town he stooped to lift something familiarly blue from the dust of the roadside, where it lay

as though tossed by careless fingers. It was a spray of wilted June-bells.

Kate went often to the village after that. Sometimes she took the highway; but more frequently she went around by the road. Somehow it had grown easier of late to endure the careless banter of neighbor girls than to meet Pete. Something in his eyes rebuked her, though his lips only spoke commonplace in his old friendly tones. She wanted to be happy, selfishly happy, so she gave up the short cut. And thus the days passed.

June's roses lay dead along the jungle. Roses are short-lived; but happiness more brief. When roses die there are gaudy tiger-lilies and glorious masses of goldenrod to deck the grave; but the grave of happiness is a bleak, drear place marked only by discontent.

Roses are dead; but still the bluebells lingered from daisy-time till aster-time, flaunting brave blossoms up from ugly places. So, even beside the tombstone of happiness, little bluebells of hope fluttered for Kate; but they, too, died in time.

At first it was only a careless word, then a bit of heedless neglect that might have been forgiven, then one day she walked home from the village alone. It is these little things in life that determine the outcome of the future, as a tiny jar causes a great rock to tumble down the mountain-side, spreading destruction in its track.

Summer is always fairest when about to leave us. As if to insure her remembrance, she reserves her choicest and best to bestow with lavish fingers. The skies are bluer, the breezes are softer, the flowers more prized, because of their scarcity.

One of those glorious "last days" was chosen for a picnic in the village grove. Kate had no heart to participate in the merry-making. It was only as an afterthought that she decided to go into the village at all; but the beauty of the day appealed to her.

For the first time in weeks she chose the short cut. A sudden desire to see familiar scenes possessed her. The sight of homely landmarks on every side appeared to her like long-absented friends. The old elm, whose shade had shielded her so often, seemed reaching out loving arms of greeting. The soft-throated warblers were gone, but their nest remained. She peered up anxiously to see it hanging forlornly by a few storm-torn threads.

Half wistfully she turned her eyes to the level corn-fields, now clothed in dun autumnal colors. There was no familiar gleam of blue, no whistled tune. She walked on sadly.

The village streets were deserted. Prompted by curiosity, she walked around to a clump of trees that figured as the village grove, and where she knew tables were being spread. A dozen glad-faced girls came out to greet her, and carried her off to see the bouquets and table-dressings.

A half hour passed before she could escape them. She was glad to be away from the sound of their merry chatter, and walked on swiftly along the foot-paths trodden hard by many feet. Their careless laughter only irritated her.

Over yonder a group of children crowded about a swing, and on a small level plot near the shade of crimson maples a gay party was deep in a game of croquet. She scanned each group sharply. One familiar figure was missing. A noisy group was playing ball farther on. She walked nearer to make sure he was not with them. With a feeling half of relief, half of disappointment, in her heart, she was turning to retrace her steps when the sound of voices attracted her. She advanced a few paces that brought her abruptly to an opening in the trees. Some one was inside. Kate looked and saw a young girl with pretty, downcast face, and soft thick plaits of hair falling over her shoulders. A bit of fallen timber afforded a convenient seat. Leaves concealed her companion, all but his arm, that was about the girl's waist. Tones, painfully familiar, came floating up through the leaves, in confidential talk. She turned away despairingly. Not back past the tables, but a shorter route, down through the village, homeward.

Once in the old familiar path she sank down wearily upon a little knoll, and laid her head upon her arm like a tired child, and while tears hot and bitter trickled down and moistened her gown.

Over her head hung the berryless branches of the hedge-elder. Some one came across the fields and stood beside her. It was Pete. She heard the footsteps, but did not lift her head, only drew a damp kerchief up closer to her eyes.

"Kate!" There was only great pitying tenderness in the tones. He sat down by her side, and his great strong fingers gathered her small fluttering ones up protectingly. She let them lie there with a sense of refuge.

"Kate," he repeated, "look up! See what I've found. It's the last one. Let me put it in your belt."

He held something up before her. It was a solitary bluebell.

"I find 'American Women' the best-selling book I ever handled," writes Mr. L. H. Reynolds, Burr Hill, Va. "It is most pleasing to all. My forthcoming delivery will be a large one."

COMFORTS FOR THE SOLDIERS.

It is safe to say that nine women out of ten, from one end of this country to the other, long to lend a hand toward making life easier for the men at the front. Many of them wonder what to make for the soldiers, and, not knowing, make nothing.

The first thing to remember is that a soldier travels in light-marching order. He might find a dressing-gown and knit slippers very comfortable after a long march, but the comfort would be more than offset by the burden of lugging them about. Privates carry their knapsacks and accoutrements on their backs, and every additional ounce seems heavier than a pound.

Perhaps nothing gave the soldier in the civil war so much solid satisfaction as the housewife or comfort-bag. Veterans say so, anyway, and many a battle-scarred man still cherishes his housewife as a woman does her wedding-ring. There are many ways of making the housewife, but the simplest is the best. Take a piece of brown chambray-skin, imitation morocco or any very soft and pliable leather, twelve inches by seven or even eight; line it with flannel or a scrap of silk or satin that is sure to wear well; but before putting the lining in divide it into small pockets. Secure the lining to the leather by means of a strong braid, and when this is done securely, tack a small round cushion on one end. This can be filled with pins, and serves as a roll for the housewife. Fill the pockets with papers of coarse needles, for a man despises nothing more than fine needles; strong black and white thread wound on bits of cardboard, a small pair of scissors, buttons for trousers and underwear, shoe-laces, preferably of leather, and a package of court-plaster. Two pieces of braid or ribbon, with which to secure the housewife when it is rolled up, should be fastened on the flat end. This weighs next to nothing and takes up almost no space. A man in camp can keep himself tidy by means of one of these articles, say the volunteers who have tried them.

The men who have gone to Cuba and those who are still stationed in the Southern camps waiting to go would joyfully welcome a consignment of havelocks. What is a havelock and how is it made? It is nothing more nor less than a frill to protect the sides of the soldier's face and his neck from the blazing Southern suns. The havelock should be made of white linen, linen lawn, or some light, cool material. It should be about eight inches deep, or just deep enough to hang down on the shoulders far enough not to prove annoying. Of course, a narrow hem must finish the ends and bottom, and a flat larch-hem must be made at the top. Run a piece of half-inch elastic through this, and the soldier, into whose hands it shall fall, will know enough to tuck the elastic together so that it fits comfortably over his cap. The havelock hangs about the neck in rather full folds, and in the civil war kept hundreds of federals from suffering from sun-blisters.

Some girls have an idea that making abdominal bandages for soldiers and sailors isn't exactly romantic work. Perhaps it isn't, but the men at the front, judging from the letters that they send to their relatives and friends, appreciate a warm, woolen bandage more than they do the average souvenir presented by their feminine friends. The surgeon-generals of the army and navy issued a call for the woolen bandages for the men some time ago, in which it was stated that the woven bandage was preferable. Any woman who is nimble with the crochet-needle or knitting-needle can make one of these bandages in two days, and not spend her whole time on it at that.

"But after all these things are made what can be done to insure their getting to the soldier?" asks the woman who is not a member of any organization, but an independent worker.

If she wishes them to reach the men who have already gone to Cuba, she is compelled to send the articles to the Red Cross. Even then, if they ever do get to Cuba, Spanish soldiers have just as good a chance to fall heir to them as our own men, for the watchword of the Red Cross is neutrality, and it shows no man any favor over another. But many of the soldiers are stationed in camps in this country, and undoubtedly will be for some time to come. There are two ways of getting articles to them. One is to communicate with the surgeon-general of the army, and receive directions from him as to how goods should be forwarded, and another is to send the things direct to the camp by express or freight, plainly addressed to the commanding officer, provided the comforts are made for the men generally. Of course, if a woman wishes to send a friend or acquaintance something, she addresses it to him, being careful to give his full name, his company and his regiment.

Boxes of eatables, such as school-boys like, are most acceptable to the men in camp, and the girl who has attended cooking-school will undoubtedly find her efforts more appreciated than those of the girl who is a skillful needlewoman. Army rations are plentiful, such as they are, but they aren't exactly appetizing to the recruit. A soldier who is made of the proper stuff soon gets used to hardtack, and what is more, enjoys it, but at first it goes hard, and a box from home is much enjoyed.—New York Sun.

THE RED CROSS AND ITS FOUNDER.

The battle of Solferino, fought in 1859 between the allied French and Sardinians and the Austrians, was one of the most sanguinary conflicts of modern times. Twenty thousand Austrians and eighteen thousand of the allies were killed and wounded.

To Henri Dunant, a Geneva philanthropist, who witnessed the battle, it seemed that the wounded, not the soldiers who met instant death, were the real unfortunates. The military hospitals, overburdened, proved inadequate; most of the wounded were left in agony. Thousands who might have been saved by timely help died upon the battlefield.

Monsieur Dunant and other volunteers did all they could to relieve the suffering, but that was comparatively little. The Genevan asked himself, what can be done to mitigate the horrors of war? He dwelt upon the problem until he was able to suggest a plan of action; and this he set forth in a pamphlet called "A Souvenir of Solferino."

He advocated an international society composed of volunteer nurses, who should hold themselves in readiness to follow armies and aid the wounded of any nation—protected by all nations as neutrals and non-combatants, engaged in works of mercy.

With this pamphlet the Red Cross society practically began. Monsieur Dunant's project was warmly approved by his own Swiss government; and when he went to Paris, seeking to organize a convention of the powers, he found that there also the "Souvenir" was known.

On the day after its publication, Madame de Staël, sister to the Duc de Broglie, caused the Red Cross badges to be placed in her drawing-room. To visitors who asked their meaning the lady made such convincing answer that both Paris society and the French government were soon committed to the Red Cross principle.

The international conference which organized the society was held at Geneva in October, 1863. By the end of the following year thirteen governments had officially approved the society's purpose. To-day every civilized nation sustains it. The good it has done in thirty years may be gaged by the single fact that during the Franco-Prussian war the German society alone expended thirteen million dollars.

But the story does not end here. After Monsieur Dunant had won his victory for the world, he had his own battle to fight, his own tragedy to meet. Unfortunate business ventures cost him his fortune, and he learned what destitution meant.

Happily his misfortunes came to an end. The Dowager Empress of Russia and the Federal Council of Switzerland granted him pensions. These were supplemented by a sum of money contributed by citizens of Stuttgart, Germany.

Now in his peaceful old age the philanthropist knows that these tributes from three nations express the feeling of all toward the man who reminded them that the claims of humanity are ever wholly to be disregarded—even in war.—Youth's Companion.

WONDERFUL MECHANISM.

A study of the mosquito's methods is likely to be more pleasurable just now than when he is absorbed in work, so we quote the following description of his implements of torture:

"The mosquito's bill, minutely delicate as that organ is, is simply a tool-box in which are kept six separate surgical instruments—miniature blood-letting apparatus of the most perfect pattern. Two of these instruments are said to be exact counterparts of the surgeon's lance. One is a spear with a double-barbed head. The third is a needle of exquisite fineness. A saw and pump go to make up this wonderful complement of tools. The spear is the largest of the six, and is used in making the initial puncture. Next, the lances are brought into play, their work causing the blood to flow more freely. In case this last operation fails to have the desired effect, the saw and the needle are carefully inserted in the victim's flesh. The pump, the most delicate instrument of the entire set, is used in transferring the blood to the insect."

BUSINESS ABILITY.

Saturday afternoon a little fellow about ten years old entered a hotel office in search of a customer. The clerk and a young Boston broker were standing at the desk talking.

"Want to buy some arbutus?" inquired the young merchant, interrupting.

"What have you there, my boy?" asked the broker, with a good-natured smile.

"May-flowers, arbutus, you know," answered the boy.

"So it's May-flowers, is it? How much do you ask for a bunch?" said the Boston man.

Now, the market price for arbutus is five cents a bunch, and when trade is dull the flowers go at even a less figure than that. But the boy sized up his well-dressed and affable customer, gave the clerk a confidential look, and then said:

"Fifteen cents."

The Boston man bought.

If this lad had been in a story book he would have scoured to inflate the price of

his wares, and when he had overcome the temptation and said honestly:

"You look as if you could afford to pay fifteen cents, but the regular price is only five, sir," the broker would have put his hand kindly on the boy's head, reminded him that honesty is always the best policy, and by way of rubbing it in, promptly offered him a place in his office at \$15 a week to start. This is a true story. The boy lied and the broker kept both hands in his pockets, but when the little sharper had gone out the broker remarked to the clerk that he'd give that boy a job in his office if he came around when he was a little bigger.—The Star.

WOMEN AS PRISON INSPECTORS.

The increasing number of women among the prison inspectors is making a great change for the better in prison conditions, both here and in England. Of course, if a term of imprisonment is looked on merely as a punishment, a species of government revenge, cleanliness and decency are not vital; but if imprisonment is an attempt to turn a poor citizen into a good one, its accessories have too powerful an influence to be neglected.

It takes a woman to make any effective headway against filth. The nastiness of many of the prisons has undeniably had a degrading effect, especially on the female prisoners, women being always sensitive to their surroundings. These new inspectors, knowing the influence of these things, have persistently exposed every dark corner and neglected drain until a new order of cleanliness and comfort has come in. Men, always resentful to house-cleaning, has sometimes accused them of wanting to pamper criminals, but those who have studied their work see only a reasonable desire to save a remnant of the prisoner's self-respect, which is one of the only two channels through which reform can come.—Puritan.

THE CAVALRY HORSE.

The army regulations prescribe the kind of horses desired for cavalry as follows:

"The cavalry horse must be sound and well bred, gentle under the saddle, free from vicious habits, with free and prompt action at the walk, trot and gallop, without blemish or defect, of a kind disposition, with easy mouth and gait and otherwise to conform to the following description: A gelding of uniform and hardy color; in good condition; from fifteen and one fourth to sixteen bands high; weight not less than 900 nor more than 1,150 pounds; from four to eight years old; head and ears small; forehead broad; eyes large and prominent; vision perfect in every respect; shoulders long and sloping well back; chest full, broad and deep; fore legs straight and standing well under; barrel large and increasing from girth toward flank; withers elevated back, short and straight; loins and haunches broad and muscular; hocks well bent and under the horse; pasterns slanting and feet small and sound."—Scientific American.

TRUE INDEED.

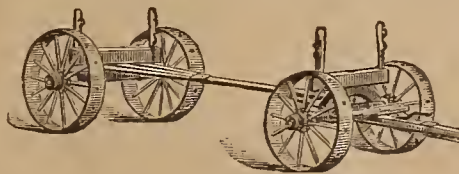
What the man of to-day needs most is not athletics in a gymnasium, but plenty of fresh air in his lungs. Instead of a quantity of violent exercise that leaves him weak for several hours afterward, he needs to learn to breathe right, stand right and sit right. And if the woman who spends so much time and strength getting out into the air would dress loosely and breathe deeply and so get the air into her, she would have new strength and vigor, and soon be freed from many aches and pains and miseries.—Phrenological Journal.

TO DEODORIZE THE HANDS.

A successful method of purifying the hands, the putting of a mixture of flour and mustard into the water when washing; the rubbing may be discontinued as soon as the smarting of the skin is felt. This very efficacious method of purification of the hands also radically deodorizes them. Iodoform even is quite removed by the soaping in combination with flour of mustard.—The Scalpel.

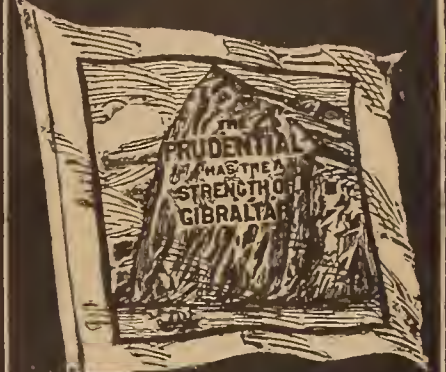
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In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30 inch wheels with 4-inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

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We furnish our agents with a fine line of samples and all necessary blanks from this department without charge. The prices for suits are \$12 to \$25. With the two outfits you can meet the taste and purse of every man and boy in your community. We pay our agents a liberal commission. Don't miss this chance. Write for particulars. Dept. C.

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"Both my wife and myself have been using CASCARETS and they are the best medicine we have ever had in the house. Last week my wife was frantic with headache for two days, she tried some of your CASCARETS, and they relieved the pain in her head almost immediately. We both recommend Cascarets."

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Our Fireside.

You with the dark and weary eyes,
Weary of love and sacrifice,
Come with me over the waters pale,
In my small gray boat with the slender sail.

Into the twilight we shall steal,
And the little gray waves along our keel
Shall sing you a slumber song of the sea,
Where sleep endureth mendingly.

The gray Sea Spirits in tender wise
Shall lay cool hands upon your eyes;
In their hands of mist you shall fall asleep,
And sea-dreams into your soul shall creep.

And none shall know—but on the shore
The old gray willows, bent and hoar,
Shall shiver and sigh themselves next day,
Leaning out over the sea alway.

—Anon.

OLD MIS' HICKLEY'S BALSAM

BY SOPHIE SWETT.



HER neighbors had always "looked up" to old Mrs. Hickley, and she might have been a social queen, by the divine right of an imposing presence and a strong individuality, in a wider sphere than Barberrry island afforded, if it had pleased Providence to place her there.

She had been "good in sickness," even before she discovered the medicine that cured all the colds and coughs on the island, and even, in its incipient stages, the consumption that was the scourge of that bleak coast.

She had, with tenderest offices, "welcomed the coming and sped the parting guests" of life upon the island, the services of the doctor from "the main" often being dispensed with entirely in these great ceremonies.

Barberrry islanders were not rich, and Mrs. Hickley never charged. Even after she discovered the balsam she charged only the price of the ingredients, and threw in the molasses, which was one of them, because her son Lorenzo had found a hoghead of it driven ashore from a wreck among the rocks at Dead Man's point, and hauled it home across the island. The molasses old Mrs. Hickley felt to be a contribution of Providence to the balsam, and would not have thought it fitting that she should be paid for it.

She told no one what the ingredients of the balsam were. She only smiled non-committally when Abby Hincks said she smelled aloes, and old Huldah Graves said she "should sooner think 'twas piery," and Lois Ware declared that there "wa'n't a sign of either of them, but she could smell paregoric just as plain as could be."

"If I should tell 'em what it was they wouldn't think nothin' of it," she said to herself, shrewdly.

She was, in truth, a simple soul, and being all unacquainted with the poets, she had never read:

"All may raise the flower now, for all have got
the seed,
And now again the people call it but a weed."

But the varied experiences of her high social position could not have failed to give her some insight into human nature.

Old Mrs. Hickley's head lay easy although it wore a crown. She would have had scarcely enough trouble for the proper seasoning of life if her son, her only son, Lorenzo, had not insisted upon going to sea as mate of the Sarah Crouch. Instead of tending in the store or teaching school, as he might have done even on "the main"—for Lorenzo had been for three terms to the Oxbow seminary.

She longed to have Lorenzo marry, because marriage might lead to his settling down at home. She was even willing to see him espouse Mabel Gott, over at Gott's cove, although she was a mighty little thing who couldn't seem to help making eyes at anything in coat-sleeves, from Tony Weed, the island fool, to the young naval officers who came with supplies for the lighthouse. They were beautiful eyes, tenderly blue, "a bit of sky let in," and a soul behind it, and Mabel had one of the rare pink and white complexions that are most brilliant, like the New England wild roses under the dashing of the salt-sea spray. She was not good enough for Lorenzo, his mother knew. Who would have been? And the Gotts were shiftless. But to keep Lorenzo at home she was willing—until the day she met the drummer at the island store.

That was a day big with fate for old Mrs. Hickley. On that day she passed, at one step, from Arcadian content to the strife of worldly ambition—a step which there is no retracing. The drummer sat upon the counter in an extremely easy attitude, his hat upon the back of his head. But he stepped to the floor as old Mrs. Hickley entered, and bowed low before her, hat in hand.

Gresham Rounds, the storekeeper, had said, in a low tone, as she entered, "Here she comes!"

"Pardon me, but are you the lady who makes the medicine that's curing everybody? Why, I heard of it over on the main! I heard of it clear up to Campport," he said, enthusiastically.

"You don't say!" returned old Mrs. Hickley, much flattered.

The drummer was attired in clothes whose fashion put to shame even the Sunday cut of Barberrry island, and as he waved his hand in an impressive gesture a sparkling gem upon his little finger made old Mrs. Hickley blink. She felt herself to be in the presence of great worldly wisdom and magnificence, and she tasted for the first time the intoxicating sweets of fame.

"Seems astonishing that you've never thought of putting your goods on the market," continued the drummer. "Sell like hot cakes; that's a fact! 'Mrs. Hickley's Balsam,' already got local fame, and just you give local fame a chance and it'll spread like the American eagle on the Fourth of July! I don't hesitate to tell you, madam, that you might now be rolling in riches, with your name on every board fence between the Atlantic and the Pacific, if you had sold your medicine instead of giving it away!"

"You don't say!" repeated old Mrs. Hickley, feebly. She had sat down upon a box of huckleberries and was fanning herself with her apron.

The islanders gathered in the store, stared agape. Mand Viola Higgins, who was sending away two hundred and seventeen quarts of huckleberries that she had picked, and who had been the center of an admiring group, saw her glory pale.

"I should admire to handle your goods," pursued the drummer. "I've handled most everything, from art to washing-powder, and I've yet to meet the man who can outsell me in any line. It isn't necessary to take out a patent, but only to copyright the name, 'Old Mrs. Hickley's Balsam,' if you'll allow me to suggest; sounds motherly. Belies you, of course, but we don't any of us mind a little thing like that when there's thousands in it! If there's money lacking for the copyright, etc., why, I know a man who is always ready with a little capital for a sure thing like that."

"Oh, la! I calc'late I could manage that," said old Mrs. Hickley, with some dignity.

"And here's my card. If you should decide at once, a postal-card to that address will fetch me. But like the great chances of this mortal life, I'm here to-day and there to-morrow! Better decide now, to let me set things a-going for you."

The shriek of the little tug which conveyed passengers and freight to the waiting steamer created a sudden scramble. Mrs. Hickley arose heavily from the huckleberry box.

"I don't know what folks here would say if I should do such a thing," she said.

"Great thing for Barberrry island! Boom it! Ta ta! You'll let me hear from you?"

The drummer's glossy hat waved before old Mrs. Hickley's dazzled eyes, and he was gone.

The store was deserted in a breathing-space, and Mrs. Hickley, standing meditatively in the doorway, saw the two horses that Barberrry island boasted drawing the jolting wagons laden with fish and huckleberries to the landing.

"'Twould be consid'able comfort to me to boom Barberrry island," she said to herself, "and Lorenzo could sell the balsam; 'twould give him a chance to go a-rovin' without temptin' the dangers of the sea. I expect that drummer is sonnin' brass and a-tinklin' cymbal, but maybe he does know what would sell. The trouble is that Lorenzo hain't got a mite of ambition. There he is now, dauntin' his legs from that wagon."

Almost the entire population of Barberrry island was accompanying the wagon to the landing. "No, he ain't got a mite of ambition—poor Lorenzo!"

Not until fifteen minutes before had Mrs. Hickley herself known ambition; but its growth is gourd-like and any soil is favorable to it—even the rocks and sand of Barberrry island. She walked homeward spurning the earth, in spite of a hundred and seventy pounds and the rheumatism.

"I'll put ambition into Lorenzo's head, and I'll make him marry Leah Pitkin, that keeps school on the main and has got a thousand dollars in the bank," she resolved. For in spite of her boast to the drummer, it was true that Leah Pitkin's thousand dollars would "come handy" in the business.

Lorenzo did not come home at noon; he had gone off on the little shrieking tug, whose ostensible business was porgy-fishing—except at steamer-time. Lorenzo could never have enough of the sea. He was wearying for the first of September, when the Sarah Crouch was to sail for the West Indies—more impatient than usual, his mother suspected, because this summer Mabel Gott had played fast and loose with him. Some artists among the summer people on the main had wanted to paint her, and completely turned her head.

When Lorenzo came at nightfall, a sun-bronzed young Apollo, with the swing of the sea in his gait, his mother seized him, supperless, and overwhelmed him with a flood of eloquence.

Lorenzo was easy-going, like his father; the queen of Barberrry island had not lacked supremacy in her own family. Yet with Lorenzo, as with his father (as old Mrs. Hickley sometimes explained), you could strike dead-

rock. Even before she gave him his supper she had reached the crowning-point of her discourse. "Pink and white complexions were a vain delusion—some folks didn't look nothin' but consumed to her, but a thousand dollars, when you was fixed so's you could turn it over 'n over—"

Lorenzo had only laughed uneasily, the color rising to his own tanned cheeks. He had frowned a little, too, a quick, anxious frown, at the mention of consumption. Lorenzo had seen many pink cheeks grow pale on Barberrry island.

Before the week was out he had given up his berth as mate of the Sarah Crouch. He had also taken steps toward the renewal of ancient flirtation with Leah Pitkin, of Duck cove, who had a thousand dollars in the bank.

His wounded pride had been cherishing the prospective revenge of putting a thousand leagues of sea between Mabel Gott and himself, but it might be an effective novelty to punish his recreant love with her own weapons.

It was a month later, and the barberries and goldenrod, that, amid the gray rocks, made Barberrry island a symphony of color, had darkened and shriveled a little under the touch of the first frost. The fogs had all gone off to sea, and sunshine reigned gloriously, but bleak winds blew up the bay, and the summer visitors to "the main" had all departed.

Over at Gott's cove there was trouble, as yet a cloud no bigger than a man's hand, and only Mrs. Gott could see it, but it darkened all her sky. Ozias, her husband, was a stolid man who went "clau-min" and set his lobster-pots, and "calc'lated that in this world you'd got to take things as they come"—a theory which had racked the nerves and grizzled the hair of his energetic and ambitious better-half.

The pink on Mabel Gott's cheeks, which had dazzled artists and supply-boat officers, had faded. She had no color now, except in the late afternoon, when it was too deep, too vivid. It went like a stab to her mother's heart.

In the chill of the early morning Mrs. Gott sat up in bed listening for sounds from the next room.

"Oh, my lord, hear that cough! It's a real holler cough, Ozias!"

She nudged her snoring husband, and when he was sufficiently awake Ozias murmured easily that "mebbe Mabel had kind of ketched a cold."

"The balsam cured Lauretta Gooch, but now there ain't no balsam—for poor folks!" she murmured, bitterly.

She repeated this to Ozias at the breakfast-table. Ozias was but a Job's comforter, but there was no one else.

"I don't calc'late there was no great to it, anyhow," said Ozias, carelessly. "Some takes one thing and some another."

Immediately after breakfast Mrs. Gott took her way to old Mrs. Hickley's. She dared not delay lest her resolution should fail her, as it had done before. Ozias had been unlucky with his lobster-pots, and there was not a dollar to be had. The Barberrry island dearth of dollars was a thing not to be comprehended by the great world outside.

"I wouldn't ask her to trust me, not to save my life," she said to herself, as she tramped resolutely over the rocky road, a little woman gray and storm-beaten, like the rocks, with one passion—mother-love—powerful in her heart. "Not after the way she's treated me lately! Not even askin' after Mabel, and takin' tea with Alvir Pitkin that she never neighbored with—everybody knows why! And it's my belief that if it wa'n't for a breakin' heart Mabel would have no holler cough."

It was yet early when she reached old Mrs. Hickley's, but the house was deserted save for Mand Viola Higgins, who industriously knitted a store stocking in the kitchen rocking-chair. The laboratory was on "the main," and Mrs. Hickley and Lorenzo rowed over there every day. Mrs. Hickley had wished to enlarge the back kitchen for a workshop, but Lorenzo, suddenly developing business talent, discovered that transportation would cost much less from "the main;" that business, to pay, must be done on a larger scale than the enlarged back kitchen would permit, and furthermore, that all Barberrry island would be "snuffing more" to find out what the balsam was made of. On "the main" people minded their own business better. Old Mrs. Hickley thought that if she had kept the secret of the balsam ingredients while she was virtually giving it away, she was likely to keep it when she was selling it for a dollar a bottle! But she yielded, and went every day to "the main," partly because the other reasons had force, partly to encourage Lorenzo's interest in the undertaking.

"She's gone?" Mrs. Gott's heart sank—and leaped again suddenly, with the recollection of a bit of information that Leona Tibbetts had once given her—Leona Tibbetts who had kept house for Mrs. Hickley when she was disabled by rheumatism.

Mrs. Gott dropped upon the lounge as if she were exhausted; which, indeed, was not an affection.

"I thought I'd stop and rest me a little while," she explained. "Pears to me as if I couldn't hardly get as far as the store."

"La! I'll go for you, Mrs. Gott, if you

want me to," said Mand Viola Higgins, who was a business woman, but kind-hearted. "I told Mrs. Hickley that I'd sit here till her bread was ready to come out of the oven, but you could look after that just as well as I could."

"And I could knit on your stockin' whilst you was gone," said Mrs. Gott, eagerly. "It's real good of you, Mand Viola."

Inwardly she was facing a difficulty—but she was used to that! There were only four cents in her worn little purse, and Gresham Rounds would no longer trust. What could be bought for four cents?

"If you'll just get me three or four cents' worth of matches, Mand Viola," she said, easily. "I don't buy many at a time, for we're clobber-full of mice, and I'm scared of fire."

She watched, though, through the window, until Mand Viola's blue cotton gown fluttered out of sight below the hill. Then she slipped into the stuffy little best room, where the green paper shades were closely drawn, and took the family Bible down from the old-fashioned what-not.

"That's where Lanretta said she kep' it—in the big Bible she bought of an agent," she murmured.

There were some large and curious shells on the top of the Bible, and the coffin plate of the late Jonathan Hickley—who had never had a coffin, having been drowned at sea. Coffin plates were highly regarded as ornaments on Barberrry island, and those whose friends found watery graves never permitted themselves to be cheated out of the mournful joy of having one. Mrs. Gott's little lean hands shook as she removed these treasures and took down the Bible. Inside the Bible were treasures also, a lock of the tow hair of little Marthy Ellen, Mrs. Hickley's sister, who had died when she was seven, several years before, some curious sea-weed from far-off shores, and a newspaper account of the wreck of the Osprey, Jonathan Hickley's ship—and here was what she sought! Mrs. Gott's small frame shook like a leaf in the wind.

"A leaf torn out of an old doctor book," that was what Lanretta said! She had died the next spring, poor Leona had, and she had never told any one but her that she had seen the "recipe." Old Mrs. Hickley didn't know it either. As Leona said, "She wouldn't have had a mite of peace if she had known it."

Only three names to remember besides the molasses; but Mrs. Gott's head swam as she tried to fix them in her mind.

She took the paper to the window and repeated the words over and over, while she watched for the flitter of Mand Viola's blue gown.

She had dropped a stitch, her hands were trembling over the knitting and the forgotten bread was beginning to burn in the oven when Mand Viola returned with the matches. She could not dissemble her eagerness to get away, and she knew that Mand Viola looked after her wonderingly.

Three days later, in the darkness just before the dawn, Mrs. Gott insistently rapped at old Mrs. Hickley's door.

"She says Mabel has taken your balsam and is dying," huskily reported Lorenzo, who had reached the door first.

"Cat's foot!" cried old Mrs. Hickley, irately, as she buttoned her dress. "She may be dying—she has looked terrible pindlin' lately—but it ain't from takin' my balsam, that couldn't hurt a baby!"

Lorenzo got Obed Goodin's horse and wagon, and drove his mother and Mrs. Gott to the cove.

"Folks say now that it's made others heave up," said Mrs. Gott, miserable to the point of reckless defiance. "Sarah Sparrow gave it to the stated supply that was stoppin' to her house at Winter Harbor. She gave it to him for minister's sore throat, and the stated supply bove up and was real sick, and Cynthia Lawton—"

"Well, I never did in all my born days!" cried Mrs. Hickley, hotly. "They wouldn't darst to tell me so to my face! My balsam, that I've been makin' for twenty years and curin' everybody, and never the first word of complaint!"

Mrs. Hickley's voice broke suddenly, and in a streak of yellow dawn that had struggled out above a churning gray sea the tears showed piteously upon her seamy cheeks.

"I wouldn't have said a word," faltered little Mrs. Gott, "if Mabel wa'n't all I've got in the world! I know folks are apt to think a thing ain't all it's cracked up to be when they've got to pay a dollar a bottle for it! But there wa'n't no more color in her cheeks than there is in a marble image—and I hain't got another thing in this livin' world but her!"

Lorenzo whipped the horse over the rocky road so that the two women clung to each other and screamed. Mabel's face, like a lily, appeared at an upper window. She smiled at Lorenzo, and he could not speak for the great sob of relief in his throat.

"I—I expected she was p'isoned!" exclaimed little Mrs. Gott, also carried out of herself by relief.

"P'isoned by my balsam!" demanded Mrs. Hickley, with flashing eyes.

"I didn't know but what it was wrong—somehow!" faltered Mrs. Gott.

"She's terrible delicate, and the lovely was too much for her stomach; you didn't give

her a mite too much, did you?" asked the maker of the balsam.

"Jest half a teaspoonful," answered Mrs. Gott, firmly. But in her own mind she was enlightened. She had put in half enough spearaint and twice too much lobella.

"Lobely never killed anybody, did it?" she asked, in a shaking voice.

"Land, no; she'd be all the better for a good dose of it—afterward. Have you had the balsam a considerable while? Sometimes the molasses dries away and that makes it stronger. Let me see it."

Mrs. Gott turned pale and remembered her Christian profession, but she replied firmly: "I have it out."

"Have it out! Have out my balsam! I declare I don't know what things are a-comin' to on this island!" cried old Mrs. Hickley. She flounced out of the house and cried all the way home, Lorenzo trying in vain to soothe her.

"I thought you'd found out before this that giving and selling are two things," he remarked, philosophically, at the breakfast-table. "I didn't expect 'twas goin' to be all smooth sailin'. Now, there's Leah Pitkin that says she shouldn't think a man would want to carry patent medicine 'round the country with his mother's name on it. She wouldn't see her name on a patent medicine bottle for any money! She calc'lates you'd better call it bronchilene. She says she's laid awake nights thinkin' up that name for it."

"Well, she needn't give herself no such trouble!" cried old Mrs. Hickley. "I've always been able to manage my medicine, and I guess I needn't ask no help of Leah Pitkin. Bronchilene!"

There was ineffable scorn in her voice. "How would folks know that bronchilene was old 'Mrs. Hickley's Balsam,' that's cured folks all 'round here for years and years, and never a word said against it till she begun to think she'd ought to make a little something out of it for her declinin' years?"

When Lorenzo arose from the table his mother called him back.

"Lorenzo, you—you hain't gone so far with that girl that you can't back out honorable, have you?" she asked, in a voice that shook. "I don't care nothin' about her thousand dollars. Bein' pushed to it, a little for money ain't nothin' to havin' folks layin' awake nights to think up names for my balsam! Lorenzo, you hain't spoke to her, have you?"

Lorenzo turned away—perhaps to hide a twinkle in his eye. "Well, not exactly, mother," he said, doubtfully.

Old Mrs. Hickley worried herself ill. When winter came she was not able to board over on "the main," as she had planned to do, and as Lorenzo was obliged to do on account of the laboratory. Leah Pitkin was over there teaching school. Old Mrs. Hickley said she expected nothing but that the name on those bottles would be changed to bronchilene before spring. Lorenzo came to see her every week, but he was close-mouthed; for aught she could find out, he might be courting that girl who didn't want her name on a patent medicine bottle.

Gott's eve was on the other side of the island, and no one told her how often and in how rough weather Lorenzo's boat was moored there. There was no "stated supply" that winter, and therefore no Sunday services to bring the people together, and she heard little from the Gotts.

But one breezy March day—breezy, but with already the spring blue in the sky, and the spring thrill in the air and even in Barbary Island's rocky heart—little Mrs. Gott came tramping over the road, a color in her cheeks and a light in her eye.

To-day it was old Mrs. Hickley instead of Maud Viola Higgins who sat in the rocking-chair, and little Mrs. Gott stood rigidly upright before her.

"I ain't worthy to sit down amongst folks, and I ain't a-goin' to, anyhow, till I tell you jest how meau and underhauded I be. And I'm so happy that I don't know as I care how bad I be! There's roses again on Mahel's cheeks, and the picture she's jest had took you wouldn't know if you hain't seen her sence fall!"

"Mahel's always havin' her picture took," said old Mrs. Hickley, who didn't feel sympathetic with happy people. "But I'm real glad she's better."

"Ozias can say that the hectic flush she had wa'n't nothin' but the September fever that his aunt used to have, but I know better! I know she'd have gone into consumption if it hadn't been for the balsam!"

"The balsam?" repeated old Mrs. Hickley. "I thought you wouldn't let her take it, or I should have sent her some."

"'Twas twice too much lobely in the first; that's what made her sick," said little Mrs. Gott, firmly.

"I never made a mite of a mistake in that balsam, never in this livin' world!" cried Mrs. Hickley, starting from her chair.

"No, 'twas me. I come over and took the recipe out of the Bible. I heard 'twas there. We was dretful poor, and I thought Mahel was dyin'. I said it over 'n over all the way home. But I couldn't get the money to send Ozias over to 'the main' to the apothecary's for two or three days, and by that time I'd got mixed up. I bought more stuff as soon as I could, and fixed it all right, and then Mahel has took two or three bottles more. Lorenzo

fetches 'em to her." Mrs. Gott searched her friend's face, the color high in her own.

"Lorenzo?" gasped old Mrs. Hickley. "I thought he was fussin' 'round that girl that laid awake nights to think up a name for my balsam. The saucy jade! I'm real thankful that it's Mahel!"

Little Mrs. Gott sank into a chair now, and burst into tears of joy.

"I'm so tickled! I was afraid you wouldn't like it; and Mahel is all I've got! And she was thinkin' mebbe her last picture, bein' so han'some, if I do say it, jest as plump as a pa'tridge, and the other so pindlin', that mebbe you'd like to have 'em on the bottles and in the papers! Before and after takin' old 'Mrs. Hickley's Balsam,' you know!" Mrs. Gott spoke, hesitatingly, reading timidly her old friend's face.

"Wouldn't that be just splendid!" cried old Mrs. Hickley, eagerly. "Folks are always took by the picture of a pretty girl! And she ain't ashamed to have her picture on the bottles? It seems as if things has turned out real providential! But to think of your havin' to get my balsam the way you did! Lavin' Gott, I'm goin' to sell that balsam and make a sight of money. I ain't one to put my hand to the plow and look back; but there ain't never, in this livin' world, goin' to be another drop sold to Barbary island folks!"

BOOK-MAKING IN THE MIDDLE AGES.

It required a man of great parts to be a successful publisher at that time, as much as or even more than it does to-day. Such an institution, for example, as the Sorbonne or University of Paris required the highest guarantees of character, capital and literary capacity in the licensed bookseller. He must be an adept in all the knowledge and science of the period, as well as perfectly skilled in the mechanical needs of his business. The university, too, which was always in close touch with the church, even when its studies had begun to broaden, exercised a jealous censorship, lest some religious heresy should creep in. Whenever an error of this, or even of a more trivial sort was found, the transcripts were burned and the bookseller heavily fined. Sometimes his privileges might be entirely revoked, indeed, and he himself imprisoned. The bookseller could not even fix a price on his own products. Four of the guild in Paris, for example, were sworn as appraisers by the authorities of the Sorbonne to fix the selling value of a book, and any deviation from this was a penal offense. To students the price was fixed at two thirds of the charge asked of the general purchaser. The booksellers could not dispose of their entire stock and trade without the license of the university, which must also approve the purchaser. As an additional help to students, the Sorbonne, in the middle of the fourteenth century, framed a law compelling all booksellers to keep books to lend out on hire, and this example was imitated at Toulouse, Bologna, Vienna and Oxford. In this way circulating libraries were established in the Middle Ages.—Harper's Round Table.

AN ADMIRAL'S GRANDSON.

One of Admiral Sampson's married daughters, the wife of Lieutenant Roy Smith, lives in Norwich, and has a small American of her own at the public schools. The first time they sang the "Star-spangled Banner" in his room the patriotic youngster rose to his feet, and there he stood reverently and resolutely till the song was over.

That's the naval rule, to stand uncovered when the great national anthem is sung or played.

With a naval father and grandfather he followed the laws of the service.

It was rather an unusual proceeding, and his playmates undertook to guy the little patriot about it, but he stood his ground like a hero.

The incident reached the ears of the local school-board, and the order at once went out that all scholars of Norwich must stand while the national hymn is sung.—New York Mail and Express.

THE LAST ROSE OF SUMMER.

It is said that Amelia Koehler, who died lately at Mount Vernon, N. Y., inspired Thomas Moore to write the famous poem, "The Last Rose of Summer." The story is that when she was a little girl of thirteen she and the poet were in a garden together, and she picked a rose for him, and as she put it in the buttonhole of his waistcoat, she exclaimed, "Now I have given you the last rose of summer!" Moore was so pleased with what she said that he wrote the poem we all know so well, and dedicated it to the little lassie whose words had inspired it.

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Our Household.

NEIGHBOR JONES' IDEA.

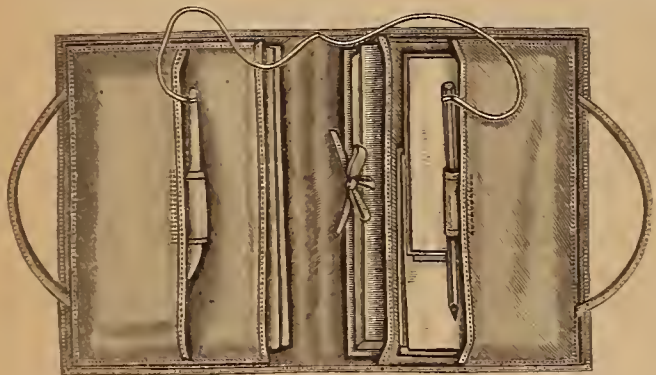
An' so she slept, while the nighbors came
To the darkened house that day;
With weepin' hearts they breathed her name
In the kindest sort o' way.
An' never a one bnt through her tears
Spoke some sweet, lovin' word
She had carefully bottled up fer years;
Bnt the corpse—it never heard.

An' they brought her flowers rich an' rare,
Jest full o' sweet perfume,
An' wreaths o' roses everywhere
Made glad the darkened room.
I thought of her life in sorrier hid
An' the world o' joy ef she
Could 'a' owned them wreaths on her coffin
lid;
Bnt the corpse—it couldn't see.

An' here's a tip fer neighbors, dear,
Who would praise me gone, no doubt:
Ef you would have joys to see an' hear
Why don't you trot 'em out?
All these post-mortem carryin's on
Are proper-like an' nice,
Bnt with the one that's dead an' gone
They don't cut any ice.
—Nixon Waterman, in L. A. W. Bulletin.

HOME TOPICS.

HOT-WEATHER HINTS.—While August may not bring hotter days than those just passed, yet the heat seems more enervating. Maybe it is because we are already exhausted with the heat of July, but it always seems



as though there was not air enough to breathe in August. Then mold and mildew, microbes and insects are ready to creep in at every point, and the already exhausted housekeeper must watch and combat these with unabating vigilance.

The family must eat in hot weather as well as in cold, and appetites are quite apt to need some coaxing at this season; so the question is not only what food can be served with the least expenditure of time and strength, but also what food is the most appetizing and nourishing.

Fresh fruits are almost indispensable to health in hot weather, and as far as possible should be used uncooked, at least only rarely made into pies. Raspberries and blackberries are often injurious if eaten too freely, on account of their seeds. Especial care must be taken in giving them to little children. Apples, peaches and grapes are most healthful. Some



housekeepers regard desserts as luxuries, but this is a mistake. Fresh fruits, ice-cream, sherbets, custard, blanc mauge and gelatin jelly, either plain or with fruit, not only gratify the taste, but are healthful, and if served every day less heavy food will be eaten. Use poultry and mutton in summer instead of beef and pork, though often a little broiled bacon or ham is very appetizing for breakfast. Vegetable salads are always good, and salad-oil is considered very healthful and nourishing. Cooling beverages made from fruit-

juices are refreshing, but care must be taken not to use too much iced drinks. Every housekeeper ought to do just as much of her work as is possible in the cool of the morning, and take care to rest



enough, if she would accomplish her work and at the same time preserve her health.

TYPHOID FEVER.—At a recent meeting of a medical association a paper was read in which the writer called typhoid fever a water disease, as he believed it was almost without exception caused by infected water. If this disease appears in a neighborhood, the water supply should be immediately looked after, and all water used for drinking should be boiled, unless known to be pure. A well in close proximity to the house is convenient to the housekeeper, but it is often polluted by animal or vegetable decomposition. A stable, a pig-pen, a cesspool, a privy vault or even a puddle of stagnant water may menace the life of a family. The only safe way is to have every such source of contamination as far from the well as possible, to keep them clean and use plenty of lime as a purifier. In some neighborhoods where systematic examinations have been made the water of ninety per cent of the wells was found chemically unfit for use. A physician tells the story of examining the premises of a farmer where three members of the family were sick with typhoid fever. He found a very filthy pig-pen, and when he advised the owner to have it cleaned, was answered, "Why, doctor, nothin's the matter with them pigs." People do not think of these things, and even when they know the danger they are prone to neglect until the life of a dear one is a sacrifice to their thoughtlessness and negligence.

MAIDA McL.

SASHES.

Very pretty, indeed, are the sashes that so soon have begun to be worn, and which will be worn presumably during the entire summer season. They are of many colors—the handsome, heavy black, the rich pure white, the plain colors, the gay Roman stripe and the no less gay bayadere stripe.

Sometimes the fringe ornamenting the ends is machine-made; yet just as often the sash ribbon is frayed for one eighth of a yard at the ends, and simply hand-knotted. Where the sash is colored or striped, the neck ribbon, if worn, should be the same.

In many different ways are the sashes bowed and knotted, the bow usually being at the side. A few of the more popular bows and knots are here illustrated. Sometimes, where the sash is long enough to warrant it, it is wound twice around the waist and made to look like a rather high girldle, as in Fig. 3. These sashes are very pretty worn with shirt-waists, and while the leather belt will of course be worn as usual, still the sashes will be an agreeable change.

EMMA LOUISE HAUCK ROWE.

DRUNKENNESS IS A DISEASE.

Will send free Book of Particulars how to cure "Drunkennes or the Liquor Habit" with or without the knowledge of the patient. Address Dr. J. W. Haines, No. 439 Race Street, Cincinnati, Ohio.

WRITING-SATCHEL.

If one is away from home in the summer, it is often more conducive to thoughts for pleasant letters home to take the materials and go out of doors to write.

A satchel made of linen, decorated as one may wish, either with embroidery or painting, and filled inside with all necessary materials, well-sharpened pencils, which it is best to fasten in the side, so as not to loose them, can be taken down in the shadow of some beautiful tree, with perhaps a stretch of water beyond it, where the most charming letters will almost write themselves. Surely no blue letter or angry letter could proceed from such surroundings.

The heavy linen which comes for heavy skirts is the better material. If one prefers leather binding and handles, a saddler will put on these finishings for a nominal price, and its beauty and utility will of course depend upon its being well made. Once used you would always want one, as every woman prefers to write upon something she can hold in her lap.

REX.

INJUDICIOUS EXPENDITURE.

Much as I may dislike to admit it, I yet believe it more often the fault of the housewife than of any one else that the finance of the family remains so persistently at low ebb, as is so frequently the case.

Prosperity holds aloof; the purse is so invariably empty; the home bare of all but the veriest necessities of life; there is a perpetual wail of woe and hard times, and the family grows discouraged and embittered in spirit. But the one most to blame so seldom realizes such to be a fact, and as a consequence it all grows worse instead of better.

The income may be such that, judiciously and intelligently handled, it might be made to furnish many comforts and at least a few of the luxuries, besides leaving a neat little margin to be applied upon the bank account, which will some day, in case of sickness or old age, be found a very desirable and substantial staff to lean upon. But if the housewife be a careless and thoughtless shopper, her household must be made to pay the penalty of her indiscretion, and there is bitter complain-



ing that they have never things to do with such as "other folks" have, and that their home is anything but attractive and pretty. Appearances are all against them.

Doubtless the "other folks" referred to (it would be ascertained were a search instituted as to ways and means found by them, of living in a more prosperous and desirable style) have no more money, and possibly less, than herself to handle. But having studied and cultivated the art of judicious expenditure, her home shows the pleasing effect of it.

I would not be guilty of believing that the improvident housekeeper has the best of intentions when, money in hand, she goes out to make her purchases for the table, for the home and for clothing for herself and family. But she lacks judgment; neglects to inform herself and to make a study of the needs at home, and of the necessity of careful counting of small change as well as of bills of the larger denominations. She buys recklessly, and she is always buying something. The money slips through her fingers so easily and unconsciously, and still she has seldom anything tangible to show for it. She knows there is something wrong somewhere. And she is guilty, so, oftentimes, of cherishing a bit of a feeling of resentment in her heart toward those who do have more in their homes than she has in hers.

In truth, she sometimes goes so far as to not only intimate, but say, that it is only through dishonesty that people accumulate more of dollars and chattels than them-

selves. The incompetent housewife is far too often severely critical and ungenerous in her judgment, seeming never to think the cause of her own lack of financial progress in least due to her own lack



of management. And there is a deal of meaning in that very common word—management. Mismanagement is at the very outset the direct cause of any amount of misfortune in finance.

Some of the prettiest and most cozily furnished homes among the world's great laboring class of people have come of the handling of the purse by a prudent, careful and calculating housewife. She has given a thought to every purchase, whether large or small. She has learned that it is the little things that count, and she makes every dime and dollar she parts with give an account in its equivalent. And it is surprising at times the real "value received" she will secure for her outlay in money.

Upon the other hand, it is even more surprising that people will let such sums of money escape their fingers, with so little of value or availability in exchange, as they frequently are known to do.

Speaking in a general way, it is accredited our sex that we will secure for outlay a much greater value than will men. By nature a woman is more economical than man, and a much closer calculator. Yet this is not by any means an invariable rule. For housewives without number, of a spendthrift nature, are daily wasting the laboriously wrought incomes of deserving, ambitious husbands.

It matters but little how good a provider a man may be, or what the amount of his income, if he has not a wife that looks to his interests and to helping him to save a portion of it. He is but little better off with much than he would be with but a small salary, for if it goes without substantial returns it is simply strength and labor lost. It is not to be wondered at that under just such circumstances men oftentimes become discouraged and disheartened and cease to exert themselves to any great extent.

But how differently labors the man



whose wife is as earnestly planning and working to make it all of avail, and who manages to bring so many comforts into the home, as well as the dietary substantial of life that are well prepared under her careful supervision and her hands. With all the confidence in the world he intrusts his earnings to her keeping. Nor does the real, true wife ever betray the trust. Instead, she makes a study of household finance and home economy, and she finds a pleasure in it. She allows no bills to go unpaid, for she has little to

do with the "credit" system or "instalment plan."

She realizes the import of "pay-day," and she allows no such nightmare to hover over her and her household. One of her mottoes faithfully lived up to is, "Pay as you go." How thankful she is, too, that she has kept this pledge with herself, when the knowledge comes to her of others who, less discreet than herself in household methods and purchases, have faced the inevitable pay-day with an empty purse and a guilty conscience.

Have you ever noticed that the wealthy and well to do of the great middle class are careful and close buyers? They know where to find the best and where they can do the best, and are invariably well informed concerning quality, average cost, and all other items that go so far toward the making for themselves a degree of prosperity so much sought and longed for. Be assured it has not all come to them by chance. It has taken study, thought and management, coupled with industry and ambition. There is method in their plans. They do not buy indiscriminately and hurriedly. They understand the meaning of "a penny saved," and dollars have resulted therefrom.

ELLA HOUGHTON.

HOME AIDS TO GRACE. SECOND PAPER. TO STAND PROPERLY.

Let the feet be slightly apart, the heel of one foot near the instep of the other. Throw the weight of the body on the balls of the feet, allowing each foot to bear an equal share. Never allow yourself to throw out one foot and bear the weight of the body on the other, for no more ungainly position can be taken, and it is not restful. You could not stand in such a position half as long as where the weight of the body is equally distributed. Try both positions before the glass, watching the effect on hips and abdomen, and you will wonder how your mother could have allowed you to acquire a habit so destructive to all the lines of beauty.

You must be equally careful that the abdomen is not given undue prominence. You do not want to go through the world looking as though you were pushing your abdomen in front of you. Throw your hips as far back as you can without dislocating them, and compel the abdomen to flatten itself. To do this easily and properly you must practise it every day—all day, in fact, or at least every time you think of it. At night practise throwing the hips forward and back, to render them more easily controlled.

Throw the hips back, draw the abdomen in, throw the chest out, and hold the head erect. Give no thought to your shoulders. They will assume the natural position if

This will be of value, for you will see enough to keep you constantly warned as to the result of your own careless habits.

Try changing from the wrong to the right position until your muscles gain pliability and strength, and after awhile you will discover that all your gowns are too short in the waist, that your lungs do better work, and that you are not so frequently a victim to palpitation and indigestion.

TO WALK PROPERLY.

First learn to stand properly, then, humming a march, step out in time to your music, letting the ball of the foot strike the ground first, and holding your knees quite stiff. Walking should chiefly be a hip exercise.

There is an old saying that none but those born to the aristocracy can learn to place the ball of the foot on the ground first when walking; but while that has been proven false, it is none the less the fact that the peasantry in foreign countries step first on the heel.

When practising your new step avoid shaking the advancing foot. Much energy is lost in this way, and it is far from graceful. The foot is extended beyond the spot where it is placed, then brought back by a bend in the knee and ankle joints. Many men as well as women have adopted this ugly mode in walking. The habit may be overcome by practice in walking with stiff knees and in extending the foot only as far as you mean it to go.

Get into a habit of mentally humming a tune every time you walk, and of keeping step to it. After a little practice you will find that you can carry the tune in your mind and talk on other topics at the same time.

One gains self-respect and an added sense of dignity, as well as self-poise, by



the knowledge that he has every muscle of his body under self-control. Only ignorant, narrow-minded people will deny the benefits to be derived from such culture. The time is coming when parents who allow their children to grow up with undisciplined bodies will be severely censured, and when it will be considered disgraceful to go slouching along the street as if one's body had never been properly put together.

Before beginning the exercises described above it should be remembered that to obtain satisfactory results they must be persisted in for many weeks; that five minutes' practice every day is better than fifteen minutes every third day; that you cannot begin too cautiously, and that if you do not get tired and a little lame no real good is accomplished.

EUPHEMIA WOODS.

A CORNER CLOSET.

In building houses, room for a closet is not always provided for: when this is absent, a very convenient one can be made like the illustration. A carpenter can make the framework, which must be securely fastened in the corner. The front drapery can be of denim or burlap, and should be lined to hang well.

B. K.

A BUNCH OF VIOLETS.

When Frances Willard saw a woman stand as the Goddess of Liberty on top of the capitol at Washington, she said, smiling:

"They will not let her come inside, but they have placed her above all."

The truth of this statement is beautifully illustrated by the following incident: During the height of our present war excitement, at a time when the whole country was feverish with anxiety, a little three-year-old girl, coming in with her mother to one of Mrs. McKinley's afternoon receptions, laid a splendid rose, almost as tall as herself, upon that lady's lap.

Mrs. McKinley kissed the child (she kisses all the children), and was reminded to tell her friends of a bunch of violets her husband had gathered for her that very morning on the lawn.

Probably no man in the whole country was so burdened with care on this particular morning as President McKinley, when he stopped with such patient thoughtfulness



ness to gather the flowers his wife loved. From the glow on her face one could see that she appreciated this little bunch of violets more than all the exotics of her conservatory, and that she was happy, not as being the wife of the president, but because she was enthroned in the heart of a truly good man. For such chivalrous, untiring devotion to his invalid wife, every woman in this land should think of William McKinley with tenderness and gratitude.

FRANCES BENNETT CALLAWAY.

SUNBONNETS.

More popular than ever will be the dainty sunbonnet this summer, since the golf girl has decreed that she will also wear it. Not that she is likely to wear it, however, where it is intended to be worn; on the contrary, it is more apt to be flying picturesquely behind her fair hair and attached only by its ribbons around her still fairer throat and neck.

The pretty "summer" girls everywhere, and their more sensible and matter-of-fact sisters, however, will wear the lovely ruffled lace affairs, and be benefited twofold thereby, inasmuch as they will not only add to the attractiveness of their costumes and faces, but will keep their complexions free from too many freckles and too much sunburn and tan.

Very inexpensive and washable sunbonnets are on the market, so to speak, but the indispensable paper pattern is procurable from any of the different pattern establishments.

The illustration herewith is made of fine colored lawn over plain white lawn, to modify the tinting and to make the bonnet less pliable. If sheer white lawn was made into a bonnet something like this illustration, and dainty inner frills and ruffles of lace added, a very charming effect would be achieved.

Some of the fairer sex who are very independent use a pattern somewhat similar to the sunbonnets which our grandmothers wore, and with modern tasty trimming, compare very favorably indeed with the perhaps newer cuts. At any rate, the sunbonnet in one form or another will be largely used this summer.

EMMA LOUISE HAUCK ROWE.

A PROSPEROUS PEOPLE.

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They will be lending money to Eastern farmers within a year. Don't stop to sell your old worn-out farm. Let the mortgage take it. Go to South Dakota and buy a rich black loam prairie farm for cash or on crop payment plan. No hills, no stones, no stumps. Good schools, good churches, good water, fine climate, and the best people on earth for neighbors.

For railway rates and information regarding lands along the lines of the Chicago, Milwaukee & St. Paul Railway write to H. F. Hunter, Immigration Agent for South Dakota, 291 Dearborn Street, Chicago, Ill., or Geo. H. Heaford, General Passenger Agent, Old Colony Building, Chicago, Ill.

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The peasantry of Europe in general, prefer their bread made from the whole meal, because of its nutritive value. The nutritive salts of meat and of wheat are phosphates. These phosphates are indispensable to the nutrition of all higher organizations. They enter into and constitute a part of, not only the bones, but every muscle, every nerve tissue; and in each secretory organ there seems to be a special accumulation.

FRANKLIN MILLS FLOUR

A FINE FLOUR OF THE ENTIRE WHEAT

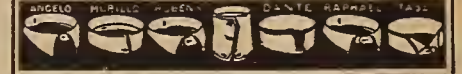
as ground by the Franklin Mills Co., is exceptionally rich in nitrogenous and phosphatic elements necessary as the sustaining force in all labor.

If your grocer does not keep Franklin Mills Flour, have him order some for you or send us his name and your order—we will see that you are supplied.

The genuine made only by the Franklin Mills Co., Lockport, N. Y.

LINENE Collars and Cuffs.

Stylish, convenient, economical, made of fine cloth and finished alike on both sides. Reversible and give double service. No Laundry Work. When soiled on both sides, discard. Ten Collars or five pairs of cuffs, 25c. Send 6c. in stamps for sample collar and pair of cuffs. Name size and style. REVERSIBLE COLLAR CO., DEPT. C, BOSTON.



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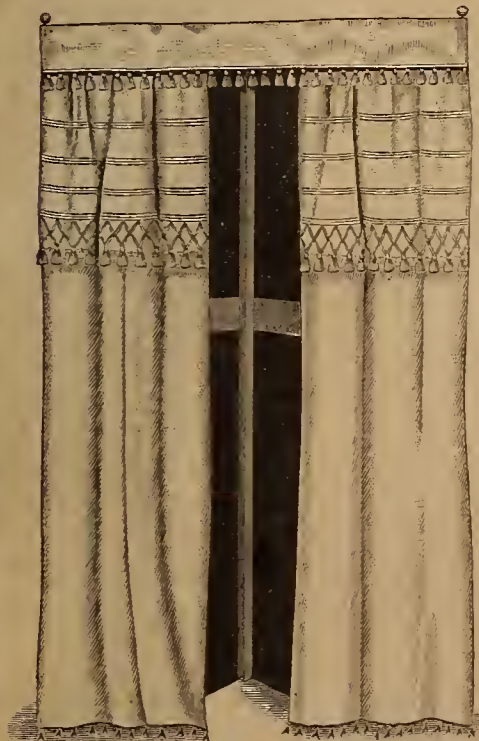
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WRITERS WANTED

to do copying at home. Law College, Lima, O.



you hold the chest properly. To do this you must make the line from the sternum to the naval as long as you possibly can.

Stand before the glass in the position so often taken, shoulders drooping and abdomen prominent, and with a tape-line measure the distance between abdomen and navel; next throw the hips back and elevate the chest, then measure again. You will find a difference of several inches, and will, besides, have given your eye a lesson that will tend to make it very observant of the attitudes of your friends.

Our Household.

WAX AND MARBLE.

Is it true, the statement that I saw a long while ago, that "Children are wax to receive and marble to retain?" If it is, do we as mothers always act as though we believed it? There are so many things that enter into the make-up of our child, it should be a constant study on our part to understand the child nature. It is possible to begin this study too late, and thus make shipwreck of our darlings. Nor is the fault altogether our own; we should have had previous training.

What other position of life is there where so little attention to preparatory training is paid? We are, or should be, taught something of the culinary art, of sewing and the various branches of house-keeping. We spend years on music and painting; yet who ever heard of any girl, or prospective bride, even, being instructed in her duties to herself, her husband or her children.

Notwithstanding this lack of previous training, the mother can learn how to care for her children aright if she gives herself up to it. It is not only the poor, hard-working woman who has not time to devote to her children, but the woman of society too often allows her so-called social duties to interfere with the time and care she spends upon her little ones.

A child's training should begin with a baby in arms; yet how seldom is this done? Too often the little susceptible mortal is turned over to the tender mercies of the nurse from this time forward. Oh, the pity of it!

"Sow an act we reap a habit; sow a habit we reap a character; sow a character we reap a destiny." Ah, there it is; the slightest act on the part of those little ones will have its effect on their futures. The temper and habits of a child are very early formed, and continuous watch, care and guidance should be exercised. What hired help is there who will take such an interest in her charge? That there are some none can deny; that they are few all will admit.

A child is an adept at imitating. This fact cannot be too strongly emphasized. Tones, expressions and manners will be copied intact. Earliest impressions last the longest. "Wax to receive, marble to retain."

When these little ones become old enough to read, great care should be exercised in the selection of the reading matter. In fact, a taste for the good and pure in literature can already have been secured for them if the mother has been judicious in her reading to them. Acquaint yourself with what your child reads. A taste for good reading must be acquired, or a mental wreck will doubtless be the result. There are hooks and books; look well into the matter. The influence of an immoral book is to the mind what poison is to the body.

Many parents fail to realize the capacity of the child mind. I shall never forget the intense interest displayed by a seven-year-old boy when his father was reading to him about the old Grecian heroes. The popular "wishy-washy" stories, though not positively injurious, do no good. There are numerous excellent magazines of the present day designed especially for children, and which also contain articles that are of benefit to the mature mind as well. It is the poorest of poor economy to be without them in the home.

ELLA BARTLETT SIMMONS.

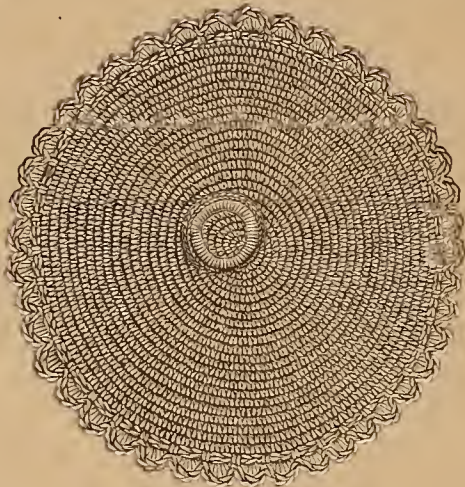
OUR SMALL MISFORTUNES.

There is one thing that always savors to me of nothing short of cruelty, and that is the way people in general, old as well as young, will tease and torment a little child or a young person about some peculiarity of form or feature, until life is nearly a burden on account of the supposed magnitude of the dreadful "deformity." Suppose a little girl has large eyes, or a rather slim, long neck; instead of waiting for time to round out the face and figure, and change these offending features into marks of beauty, "Bess' eyes are like saucers," and "Bess' neck (which, if broken) is long enough to tie together again," are constantly dinned in poor Bess' ears until she can never feel or appear at ease for thinking about those staring eyes or wondering if her neck does look so very dreadful. Perhaps it is a protruding

under lip which attracts the attention of the fault-finders, and "Look out, or you will step on that lip of yours," or "Gather up the slack in that lip or it will fall off," keeps a little girl of my acquaintance in a state of deep dejection; and I have often seen her taking a stealthy survey of her face in the glass, and with tears in her eyes she would say, so sorrowfully, "Oh, I do wish my lip was 'pittier' than it is," the sorrowful droop exaggerating the slight protrusiveness of a very sweet little mouth. "Never mind that little lip, dear; it is a lovely color, and does not look badly at all," I answer, and a pleasant smile puts the offending lip into a very pretty appearance.

Take the case of a boy whose feet have somehow tried to outdo the rest of his body in growth, and that poor boy's feet is the subject of endless so-called jokes and jests until he shrinks from going anywhere, simply because a few thoughtless persons with more talk than brains have caused him to imagine that wherever he goes the whole world sees and thinks of nothing else but his feet. Often older people are made the butt of these jokes, and while the effect may not be so lasting or as injurious as on younger ones, still it is not conducive to happiness by any means, and any one who will thoughtlessly add a cloud to the brow of an old person deserves a visit from the "whitecaps."

There are people whom we often meet whose first impulse seems to bid them to say something unkind or unpleasant, and as a rule they are avoided as much as possible by all; this in turn only adds more to their natural bitterness of spirit, and sarcastic speeches get to be the rule. How much pleasanter it is to meet those dear friends who always have a kind word and a pleasant smile, and who never seem to see that our "nose is crooked," or that we are "dreadfully tanned," or that those "wrinkles are growing deeper every day," and so we forget our small misfortunes and carry away with us the feeling that



Mrs. So-and-so is a very pleasant person indeed. There is no reason why every one should not be loved and esteemed instead of being thought of with dread. Simply cultivate the habit of saying pleasant things, of being blind to the peculiarities of others, of making unkind remarks, and people will be glad to meet you, and you will be certain of a welcome anywhere.

A. M. MARRIOTT.

A PATRIOTIC BANQUET.

The following partial description of a very pleasant entertainment may be suggestive to some hostess who is casting about for something new under the sun.

The guests were received in the parlor, which was strikingly destitute of decorations more than the ordinary furnishing. A large room adjoining was thrown open shortly before the banquet proper was announced, and a truly gorgeous scene burst upon the view.

The sides of the room were beautifully draped with red, white and blue bunting, sewed in strips and used lengthwise around the lower part of the wall. Red geraniums and all availed white flowers formed the principal floral decorations. Two long tables were laid with snow-white linen, and through the center, from end to end, red and blue bunting completed the trio of color.

At each plate was a card with the name of a guest, and on its reverse side a quotation suited to the individual for whom it was put in place. At the end of the feasting these were read as a prelude to some excellent after-dinner speeches.

Both quotations and original speeches ranged all the way from delightful nonsense to real wisdom and honest pathos.

For the time was too close upon the heels of the time when our brave boys had left us for Cuba or some distant camp for patriotism to be a word without meaning. Few there were among the little company whose deepest feelings had not been lately stirred, and the laughter and the almost tears were genuine and sincere.

The menu was simple, but everything the best of its kind: Sandwiches—some of cheese, some of turkey—coffee, lemonade, cake and strawberry ice-cream.

The whole affair was enjoyable largely from its perfect simplicity. No elaborate program was prepared and carried out in spite of weariness of the flesh; no favors costing time and money were bestowed upon the guests. The plain white card with its choice quotation made a fitting memento of the occasion.

The decorations, notwithstanding their beautiful effect (of course, flags were freely used as well as hunting), were neither expensive nor too ornate. By lamplight, especially gas or electric light, our national colors take on a certain gentleness of tone that they do not have in broad daylight.

The charm of hospitality is too often impaired by overdoing in zeal for something new, and possibly just that zeal is prompted by a wish to excel some other hostess on a previous occasion. A certain amount of good-natured rivalry is commendable in all walks of life, but it must be the least of the elements that constitute true hospitality.

Guests leave such an evening's entertainment, as the one just hinted here, the better for it. If they go tired they come home rested and glad at heart that they are American citizens, and that they are not isolated beings, but members of society—a society that is irksome or inspiring to the degree that it is artificial or natural and sincere.

BERTA KNOWLTON BROWN.

A NICE THING TO KNOW.

The morning after Julian came home from college for his summer vacation he took out his straw hat, and upon looking at it, said, "It is a very nice hat, but it is dirty, and I cannot wear it." After he went away I took the hat and ripped off the band (perhaps that was hardly necessary, but I did it); then I mixed a good bowl of Indian meal, about as they do in the country for feeding to young chickens, and sat down under the shade of a friendly tree and rubbed the moist meal carefully over every part of the hat, leaving it well covered with the paste after carefully rubbing with my fingers. I put the hat on a window-seat in not too hot a sun, and let it dry slowly. Later in the day I brushed the meal out with a clean whisk-broom.

That was a slow job, as no end of the meal seemed to stay in the braids of the hat. When Julian came he was delighted with the hat, and upon asking how I cleaned it, he remarked, "What a nice thing to know." The girls wear sailor hats so much that they may be glad to know, if they do not know already, how inexpensively they may be cleaned, and not only keep their own sailor hats clean, but also take care of their brothers' and fathers' straw hats.

MARY JOSLYN SMITH.

COVER FOR A MEDICINE-GLASS.

Any kind of liquid standing in a sick-room is apt to become foul by absorbing the odors of the room, so it is always best to keep it covered.

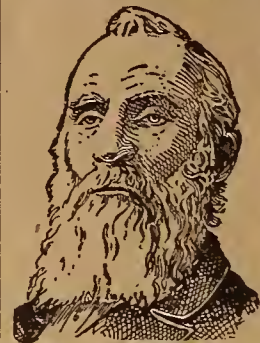
Crochet in single crochet, with any of the silks or cottons for that purpose, a small round cover; make a ring over a small brass ring, and sew it to the top. Procure a round piece of glass with two holes bored in it. Have it the size of a tumbler, attach it to the cover, and keep it in the medicine-cabinet when not in use, so it can be found when wanted.

A very convenient glass to use in giving a drink of water to an invalid who cannot sit up came to my notice not long since. I added one to my cabinet immediately. As liquids of all kinds can be taken from it without raising the head, no sick person can afford to be without one. It comes at the moderate price of twenty-five cents. A covered china spoon is also a very great convenience to have in feeding a patient.

B. F.

For colds that come in the night, you cannot have medicine too handy, and the right medicine is Jayne's Expectant.

Free—A Wonderful Shrub.—Cures Kidney and Bladder Diseases, Rheumatism, etc.



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DISORDERS of the Kidneys and Bladder cause BRIGHT'S DISEASE, RHEUMATISM, GRAVEL, PAIN IN THE BACK, FEMALE COMPLAINTS, URINARY DISORDERS, DROPSY, etc. For these diseases a POSITIVE SPECIFIC CURE is found in a new botanical discovery, the wonderful KAVA-KAVA SHRUB, called by botanists, the piper methysticum, from the Ganges river, East India. It has the extraordinary record of 1200 hospital cures in 30 days. It acts directly on the Kidneys and cures by draining out of the Blood the poisonous Uric Acid, Urates, Lithates, etc., which cause the diseased conditions.

Rev. John H. Watson, testifies in the *New York World* that it saved him from the edge of the grave when dying of Kidney disease. The venerable Mr. Jos. Whitten, of Wolfboro, New Hampshire, at the age of eighty-five, gratefully writes of his cure of Dropsy, swelling of the feet, and Kidney and Bladder disease by the Kava-Kava Shrub. Many ladies also testify to its wonderful curative powers in disorders peculiar to womanhood.

That you may judge of the value of this *Great Specific* for yourself, we will send you one Large Case by Mail FREE, only asking that when cured yourself you will recommend it to others. It is a *Sure Specific and cannot fail*. Address, The Church Kidney Cure Company, No. 409 Fourth Avenue, New York City. Mention this paper.

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by selling 10 lbs. Baker's Teas, etc., or sell 25 lbs. for a Silver Watch and Chain; 50 lbs. for a Gold Watch and Chain; 60 lbs. for a Boys' or Girls' Bicycle; 100 or 150 lbs. for the larger size Bicycles; 6 lbs. for an Electric Battery. Express prepaid. Write for Particulars. W. G. BAKER (Dept. 87), Springfield, Mass.

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and want all to have the same opportunity. It's VERY PLEASANT work and will easily pay \$18 weekly. This is no deception. I want no money and will gladly send full particulars (including 2c. stamp). Mrs. A. H. Wiggins, Box 49, Lawrence, Mich.

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In working for me, Ladies and gentlemen, this is your great opportunity. OUT-FIT FREE. Are you ready? Workers write at once to E. HANNAFORD, Springfield, Ohio.

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40 Cent Patterns for 10 Cents

Any TWO PATTERNS, and FARM AND FIRESIDE one year, for 35 CENTS.

These patterns retail in fashion bazaars and stores for twenty-five to forty cents each, but in order to increase the demand for our paper among strangers, and to make it more valuable than ever to our old friends, we offer them to the lady readers of our papers for the low price of only 10 Cents Each.

Full descriptions and directions—as the number of yards of material required, the number and names of the different pieces in the pattern, how to cut and fit and put the garment together—are sent with each pattern, with a picture of the garment to go by. These patterns are complete in every particular, there

being a separate pattern for every single piece of the dress. All orders filled promptly.

For ladies, give BUST measure in inches. For SKIRT pattern, give WAIST measure in inches. For misses, boys, girls or children, give both BREAST measure in inches and age in years. Order patterns by their numbers.

Satisfaction guaranteed or money refunded.

To get BUST and BREAST measure, put the tape-measure ALL of the way around the body, over the dress close under the arms.

Special price of each pattern, 10 cents.

Postage one cent EXTRA on skirt, tea-gown and other heavy patterns.

Postage paid by us.

Address FARM AND FIRESIDE, Springfield, Ohio.



No. 7410.—LADIES' FULL WAIST. 10 cts. Sizes 32, 34, 36, 38 and 40 inches bust.



No. 7417.—CHILD'S BOX-PLAIED APRON. 10 cents. Sizes, 4, 6, 8 and 10 years.



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No. 7418.—BOYS' DRESS. 10 cents. Sizes, 2 and 4 years.



No. 7425.—CHILD'S DRESS. 10 cents. Sizes, 2, 4, 6, 8 and 10 years.



No. 7419.—LADIES' GUIMPES. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7421.—LADIES' WAIST. 10 cents. Sizes 32, 34, 36, 38 and 40 inches bust.



No. 7423.—LADIES' GOLF BONNET. 10c.



No. 7415.—CHILD'S REEFER JACKET. 10 cents. Sizes, 2, 4, 6, 8 and 10 years.



No. 7424.—GIRLS' SAILOR DRESS. 10 cts. Sizes, 4, 6, 8 and 10 years.



No. 7432.—LADIES' NEW SHIRT-WAIST. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 6459.—LADIES' AND MISSES' SUN-BONNETS. The three patterns for 10c. Cut in three sizes—Ladies', Misses' and Children's.



No. 7268.—INFANTS' SACK. 10 cents.



No. 7413.—LADIES' ETON JACKET. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7416.—LADIES' WAIST. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



No. 7393.—LADIES' SIX-GORED SKIRT. 11 cents. Especially adapted to wash-goods. Sizes, 22, 24, 26, 28 and 30 inches waist.



No. 7433.—BOYS' DEWEY SUIT. 10c. Sizes, 2, 4, 6 and 8 years.

Our Sunday Afternoon.

BE PATIENT.

O heart of mine, be patient. Some glad day,
With all life's puzzling problems solved for
aye.
With all its storms and doubtings cleared
away,
With all its little disappointments past,
It shall be thine to understand at last.

Be patient. Some sweet day the anxious care,
The fears and trials, and the hidden snare,
The grief that comes upon thee unaware,
Shall with the fleeting years be laid aside,
And thou shalt then be fully satisfied.

Be patient. Keep thy life-work well in hand,
Be trustful where thou canst not understand;
Thy lot, whatever it be, is wisely planned;
Whatever its mysteries, God holds the key;
Thou wilt trust him, and bide patiently.

SHOW US YOUR SAMPLES.

A HUMBLE Christian worker was holding preaching service in the open air, when a well-dressed man drew near, and at a pause in the service asked permission to address the meeting. Permission being given, he denounced religion as a humbug and a sham, and advised men to go to socialist meetings, which he said would do more good.

While he was speaking, the leader of the meeting learned from one of the men there that he was a drummer for a dry-goods house, and a noted infidel. As he closed, the Christian man said to him: "I hear you are a drummer, and go from town to town with samples of the goods manufactured by your firm? Now you are engaged in another business. I ask you to show your samples. I will show you what we are doing."

Beckoning to two men to stand up beside him, he continued: "Here are two brothers. You see them now. Five years ago they were the biggest scamps and drunkards in the district. They were wife-beaters and even a terror in the saloon. But five years ago they went to a little gospel meeting, and there they gave their hearts to Jesus. Now they and their wives are well dressed and their homes comfortably furnished, yet they are earning just the same wages as they did before their conversion, and in their homes all is happiness. That is the work of the gospel. They are samples of what it can do. Now show me the samples of socialism. Show me one drunkard made sober, one dishonest man made honest, one immoral man reclaimed, and then we will listen to you. If socialism is better than Christianity, show your samples."

There was a general laugh at the confusion which sat visibly on the face of the socialist, and amid the roar of derision he slunk away.

APPALLING STATISTICS.

The eighth annual meeting of the Boys' and Girls' National Home Convention was held in Indianapolis, Ind., December 14th and 15th just passed. A local paper says:

"The secretary of the convention had a mass of tabulated statistics from chiefs of police of many cities, relating to crime among youth, and showing the effects of curfew laws in restraint of crime. The report from St. Louis showed a reduction under the curfew law of fifty per cent in the commitments to the reform school, and Lincoln, Neb., reported a falling off of seventy-five per cent.

The report further showed that in 1895 and 1896 over 197,000 boys were arrested; from something over 100 towns heard from there were 371 bands of boy robbers; nearly one third of Boston's arrests were boys; 33,000 youngsters were incarcerated in Chicago in two years. The report from all the big cities shows that the number of boys who start every year to the penitentiary is astounding.

SPURGEON'S PROVERBS.

One vice is one too many.
Don't fell a tree to kill a bee.
An aimless man hits nothing.
A man in debt—a bird in a net.
He that's at sea must sail or sink.
Don't make two fires to boil one egg.
A man of means may be a mean man.
More are cured by diet than by lancet.
Even in a forest don't waste fire-wood.
He is rich enough who wants nothing.
Better be lion-hearted than pig-headed.
Muddle at home makes husbands roam.
He who does most is the one to do more.
Fly from pleasure that bites to-morrow.

The pledge-table is the best sign-board.
The worst pig may get the best potatoes.
Every day a thread makes a skein in a year.

You may win your case, yet lose your cash.

He bears sorrow best who hides it the most.

An hour may read what an age can't mend.

He who goes to law may come back with straw.

Even a poor man may be rich in good works.

To hope and strive is the best way to thrive.

It's a bad drink that makes a man thirsty.

Eavesdroppers bear what they'd like to forget.

Don't have a helpmeet till you have meat to help.

A good conscience is better than a good income.

He can't drink too much who drinks not at all.

They who spare when young can spend when old.

Though God steers the ship, we must pull the ropes.

'Tis better to be washed white than whitewashed.

Fretting over loss or lack never filled an empty sack.

THE OLD-FASHIONED GIRL.

She was a little girl until she was fifteen years old, and then she helped her mother in her household duties. She had her hours to play, and enjoyed herself to the fullest extent. She never said to her mother, "I don't want to," for obedience was to her a cherished virtue. She arose in the morning when called, and we do not suppose she had her hair done up in curling-papers and crimping-pins, or banged over her forehead. She did not grow into a young lady and talk about her beau before she was in her teens, and she did not read dime novels, nor was she fancying a hero in every boy she met. The old-fashioned girl was modest in her demeanor, and she never talked slang or used by-words. She did not laugh at old people nor make fun of cripples.

She had respect for her elders, and was not above listening to words of counsel from those older than herself. She did not know as much as her mother, nor did she think that her judgment was as good as that of her grandmother. She did not go to parties by the time she was ten years old and stay till after midnight, dancing with chance young men who happened to be present. She went to bed in season, and doubtless she said her prayers, and slept the sleep of innocence, rose up in the morning, bappy and capable of giving happiness. And now, if there is an old-fashioned girl in the world to-day, may heaven bless and keep her and raise up others like her.—Bishop Cosgrove.

ON LIVING BEYOND ONE'S MEANS.

Dr. George C. Lorimer, in an article on "Living Beyond One's Means," says:

"Some one has said that our children desire to begin where we leave off. Consequently, if they can procure the elegancies of life in no other way they will secure them on the credit system and pay interest on a cut-throat chattel mortgage, a form of finance that would bankrupt the Rothschilds and lead to a panic on every exchange in the world. For it is a fact that the poor pay far higher for the accommodations they receive than do the rich for theirs. The not usual outcome of this kind of housekeeping is that the debtor falls behind in his payments, is annoyed by duns, borrows a trifle from a friend to ward off the evil day, and at last abandons hope, losing furniture and all that has been paid as interest and principal.

"In happy contrast was the course adopted by a bright-eyed wife in Chicago. Calling at the house, I remarked, 'Your home looks very pretty.' She replied emphatically, 'It is pretty, for we have paid for everything in it.' Then she told me that before her marriage her intended requested her to select a carpet and he would buy it on trust; but that she stontly refused, and assured him that the bare floor was good enough for her until he could afford to pay for what he purchased. I exclaimed, 'Bravo!' and I am persuaded the little woman has made a good business man of her husband by this time."—Evangelical Messenger.

HIGHER EDUCATION.

But not only has higher education become broader, but the necessity for elementary general and technical education has become universal. It was formerly supposed that the manufacturer, the miner, the builder of bouses or ships or mills, the farmer and the man of commerce needed no education beyond that gained by actual work at a trade or desk or in the field. Now, however, one cannot expect to be successful along any of these lines without a broad general education, and more or less that is special and technical. It is only the educated man who has any chance in any field, except that of mere brute strength. The forces of nature have been harnessed to do our hard work; the hewers of wood and drawers of water are no longer men; they are mighty engines, directed by a few skilled hands, each doing the work of a thousand men. It is no longer sufficient to be able to read history, to quote the poets, to be familiar with family trees, and to know to a nicety the social rank of every one that sits at a state-dinner table. If one is to be a working factor in the busy world of to-day, he must be a master, not a slave; a thinker, not a drudge and imitator. He must be familiar with the broad principles of science, with the laws of mechanics, with the instrumentalities by which great undertakings are successfully accomplished. What was right and proper in the education of a boy of noble birth two hundred years ago is no longer suited to the demands of to-day. Universal responsibility demands universal education as characteristic of this age, as are all the other institutions of modern life.—Success.

MEDICINAL VALUE OF VEGETABLES.

Apples improve digestion.

Salsify relieves biliousness.

Cucumbers and lettuce are cooling.

Lemons and pineapples relieve sore throat.

Asparagus purifies the blood and acts upon the kidneys.

Celery quiets the nerves, relieves rheumatism and neuralgia.

Spinach, carrots, parsley and dandelion invigorate the kidneys.

Grapes are regarded as good for many troubles, including malaria.

Beets, turnips and cabbage improve the appetite and cleanse the blood.

Beans, carrots and parsnips are nutritious and tend to produce fat. Potatoes are also fattening.

Onions, garlic, leeks and shallots stimulate circulation, increase saliva, promote digestion. Onions stimulate kidneys, cure insomnia, and also are tonics in their effects.

JEFFERSON'S TEN RULES.

Take things always by the smooth handle.

Pride costs more than hunger, thirst and cold.

We seldom repent of having eaten too little.

Nothing is troublesome that we do willingly.

Never spend your money before you have earned it.

Never buy what you don't want because it is cheap.

Never trouble another for what you can do yourself.

Never put off until to-morrow what you can do to-day.

How much pain the evils have cost us that have never happened.

When angry, count ten before you speak; if very angry count a hundred.

BE PRACTICAL.

No nobler purpose can be conceived than that which helps to cultivate the mind for the practical side of life. It fits one for every duty, and ennobles every pursuit. Three fourths of the people of this country live merely by supplying each other's material wants, and most of us have to spend our lives dealing with commonplace things. It is a good thing at the very outset for youth to cultivate widespread and vital interest in things that grow and things that sell for solid cash. It educates the practical faculties.—Success.

We take pleasure in referring our readers to the advertisement of the Osgood Scale Company, Binghamton, N. Y., whose familiar face appears in this issue among our advertising friends.

A GREAT DISCOVERY

Medical Men Say It is Revolutionizing Treatment of Female Ills

Through the Generosity of Mrs. Ellen Worley
Thousands of Packages Will Be Given
Away This Month

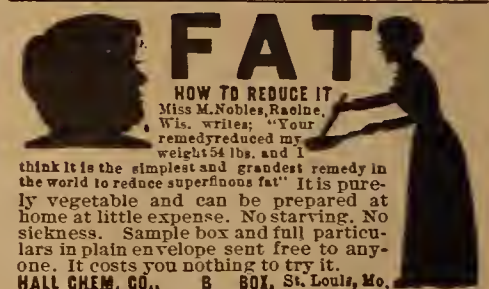
The most remarkable medical discovery of the decade is the German Compound originated by Dr. Erastus Baum, of Berlin, which learned medical men say is an absolute cure for Falling of the Womb, Leucorrhea, Whites, Inflammation of the Ovaries, and Female Weakness in all its phases.

Thousands of cases which even hospital treatment failed to cure have demonstrated the marvelous curative properties of this great specific, and so far not a single failure to cure has been recorded.

In these days of humbuggery and quackery it will prove a boon to female sufferers, for Mrs. Ellen Worley, Box 666, Springfield, Ohio, has prepared to distribute several thousand free packages to those of her sex who will write for them.

Mrs. Worley was cured by this great remedy after paying doctors more than one thousand dollars without benefit; and those who are in doubt and need of advice can write freely and unburden themselves to her without the natural diffidence that forbids them telling a male physician about their private ills.

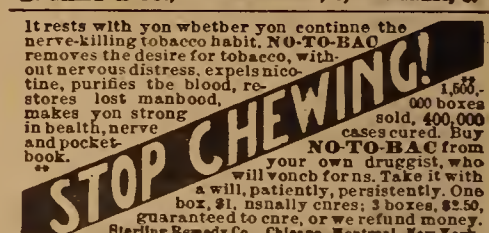
She will mail the remedy in plain sealed package without charge and tell you where you can purchase the great specific which will most certainly cure you.



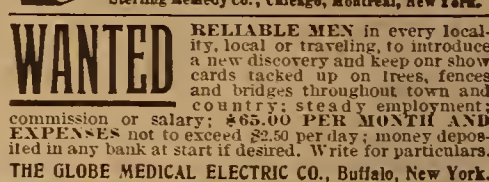
FAT
HOW TO REDUCE IT
Miss M. Nobles, Raeline, Wis. writes: "Your remedy reduced my weight 54 lbs. and I think it is the simplest and grandest remedy in the world to reduce superfluous fat." It is purely vegetable and can be prepared at home at little expense. No starving. No sickness. Sample box and full particulars in plain envelope sent free to anyone. It costs you nothing to try it.
MAIL CHEM. CO., B BOX, St. Louis, Mo.



DON'T BE HARD UP \$2,000 a Year Easy.
Gents & Ladies at home or traveling, taking orders, using and selling Prof. Gray's Plating, Watches, Jewelry, Tableware, Bicycles and all metal goods. No experience, heavy plate, modern methods. We topplating, manufacture outfits, all sizes. Only outfits complete, all tools, lathes, materials, etc., ready for work. Gold, Silver and Nickel, also Metal Plating by new dipping process. We teach you the art, furnish secrets and formulas FREE. Write to-day. Testimonials, samples, etc., FREE.
B. GRAY & CO., PLATING WORKS, 7, CINCINNATI, O.



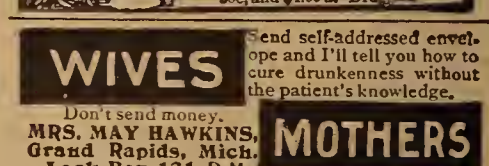
STOP CHEWING!
It rests with you whether you continue the nerve-killing tobacco habit. NO-TO-BAC removes the desire for tobacco, without nervous distress, expels nicotine, purifies the blood, restores lost manhood, makes you strong in health, nerve and pocket-book.
** your own druggist, who will vouch for it. Take it with a will, patiently, persistently. One box, \$1, usually cures; 3 boxes, \$2.50, guaranteed to cure, or we refund money.
Sterling Remedy Co., Chicago, Montreal, New York.



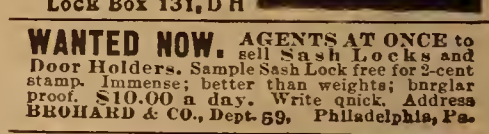
WANTED
RELIABLE MEN in every locality, local or traveling, to introduce a new discovery and keep our show cards tacked up on trees, fences and bridges throughout town and country; steady employment; commission or salary; \$65.00 PER MONTH AND EXPENSES not to exceed \$2.50 per day; money deposited in any bank at start if desired. Write for particulars.
THE GLOBE MEDICAL ELECTRIC CO., Buffalo, New York.



PARKER'S HAIR BALSAM
Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c and \$1.00 at Druggists.



WIVES
Send self-addressed envelope and I'll tell you how to cure drunkenness without the patient's knowledge.
Don't send money.
MRS. MAY HAWKINS,
Grand Rapids, Mich.
Lock Box 131, D H



WANTED NOW. AGENTS AT ONCE to sell Sash Locks and Door Holders. Sample Sash Lock free for 2-cent stamp. Immense; better than weights; burglar proof. \$10.00 a day. Write quick. Address BROADHARD & CO., Dept. 69, Philadelphia, Pa.



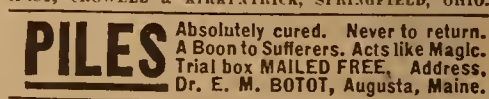
CURED TO STAY
HAY FEVER
CURED. Dr. HAYES, Buffalo, N. Y.



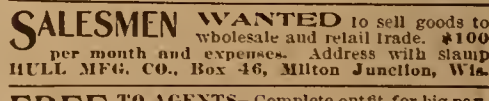
Shrewd, Reliable Man Wanted in Each Locality to Act As
DETECTIVE!
Address American Detective Association, Indianapolis, Indiana.



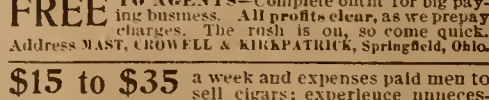
SCHOOL OUT?
TEACHERS AND STUDENTS who wish a paying, genteel business requiring almost no capital, should write immediately to MAST, CROWELL & KIRKPATRICK, SPRINGFIELD, OHIO.



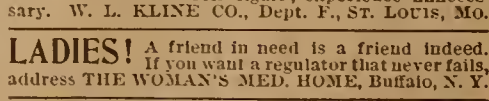
PILES
Absolutely cured. Never to return. A Boon to Sufferers. Acts like Magic. Trial box MAILED FREE. Address, Dr. E. M. BOTOT, Augusta, Maine.



SALESMEN WANTED to sell goods to wholesale and retail trade. \$100 per month and expenses. Address with stamp HULL MFG. CO., Box 46, Milton Junction, Wis.



FREE TO AGENTS—Complete outfit for big paying business. All profits clear, as we pay charges. The rush is on, so come quick. Address MAST, CROWELL & KIRKPATRICK, Springfield, Ohio.



\$15 to \$35 a week and expenses paid men to sell cigars; experience unnecessary. W. L. KLINE CO., Dept. F, St. Louis, Mo.



LADIES! A friend in need is a friend indeed. If you want a regulator that never fails, address THE WOMAN'S MED. HOME, Buffalo, N. Y.



SPECTACLES at wholesale. Send for catalog. Agents wanted. COULTER OPTICAL CO. Chicago, Ill.



RUBBER GOODS of every description. Catalog free. Edwin Mercer & Co., Toledo, O.



Irritated with SORE EYES USE Dr. ISAAC THOMPSON'S EYE WATER

Smiles.

"I WAS ON THE MERRIMAC—"

"I was on the Merrimac—" "No more," the listener cried;
 "The best is none too good for you; come on, just step inside;
 Now eat your fill at my expense, and name your brand of wine;
 For heroes such as you, my boy, the best is none too fine!"

"I was on the Merrimac—" "I know," the listener cried;
 "You rushed into that seething hell, and death itself defied;
 And now from Spanish dungeons you in some heroic style
 Have slipped away and fooled them, I can see it in your smile!"

"I was on the Merrimac—" "Yes, yes," the listener said;
 "The laurel wreath is waiting to adorn your gallant head;
 And Fame is sitting smiling just as happy as can be,
 All ready now to hand your name to Immortality."

"I was on the Merrimac—" "Aha!" the listener sighed;
 "To think that you should get away and stem the roaring tide!
 To think that I should see the day I'd grasp a hero's hand,
 Especially a hero such as formed young Hohnson's band!"

"I was on the Merrimac, no interruptions, please;
 Because some explanations now will set us at our ease;
 I was on the Merrimac a day or two before
 The government took charge of her, down there in Baltimore!"

—Baltimore News.

ONE WAY TO COLLECT A DEBT.

I WOULD like to have that \$50 you borrowed from me about six months ago," said one politician to another several days ago.

"Indeed I have not got that much with me; can't you wait a few days longer?"

"No; I need the money badly, and I must have it. I have been fair with you, and have not bothered you much, but I must have it now or I will have to take some action to recover it."

"I will fix him," said the debtor quietly to a friend who had heard the conversation. "I have only \$40.50 in the bank, and I will give him a check for the \$50. Of course, he cannot get it, for they will not let me overdraw my account."

Turning to the man he had borrowed from, the politician said, "I will give you a check for the money, and you can get it cashed tomorrow."

"Very well, I will take it."

The check was handed over. At the bank it was handed back, there not being sufficient money to meet it.

"How much is there in the bank?" was inquired.

"Forty dollars and fifty cents," was the reply.

"All right; I will deposit \$9.50 in his name, and then you can cash the check."

Then he handed over the amount, and a moment later was given the \$50.

That is why two politicians do not speak now as they pass.—Pittsburg Chronicle Telegraph.

SHE HAD BEEN WAITING.

As if utterly unaware that a new bicycle ordinance was in force, she jauntily wheeled along the sidewalk of a brick-paved street, when she might just as well have been in the road. One of the special bicycle police detail was within seeing distance, and he increased his speed until a little ahead of her. Then he dismounted and waited for her to come along.

He was evidently embarrassed for having to interrupt the perambulations of a lady on wheels, especially one of middle age and of a matronly measure.

"Ah—ah—excuse me, madam," he nervously explained, "but I'll have to take you down to the justice's office."

With a coolness that entirely disarmed him, she smiled as she replied:

"Oh, sir, that's just what I've been waiting for for thirty years. Come on."

He escaped around the corner and looked back to see her continuing up the sidewalk.—Detroit Free Press.

NOT VERY OBJECTIONABLE.

Little boy—"Mama, I had the nightmare last night, awful."

Mama—"That's because you had so much cake and preserves."

Little boy (hastily)—"Nightmares don't really hurt, you know; you only think they are going to, same as playin' ghost. I like nightmares. They is real fun."—New York Weekly.

UNCLE 'RASTUS' EXPLAINS.

Uncle 'Rastus' was intently gazing at a newspaper, when some of the young men from the factory passed the door-step on which he was sitting.

"Found something interesting, uncle?" said one of them.

"Pow'ful news in disshere paper," said he, without raising his eyes. "Pow'ful news."

"But look here, you're not reading that paper at all. You are only pretending."

"Go 'long wld yoh foolishness, an' doan 'zasperate de ole man. Co'se I's readin'."

"But you've got the paper npside down."

The discovery aroused no consternation with Uncle 'Rastus.

"Some folks is mighty knowin'," he remarked, with placid contempt. "Ef yo'd notice a little mo', yo'd see dat I'd put mer specs on npside down. 'Stead oh takin' 'em off an' puttin' 'em on ergin, I jes' reversed de pappah, so's ter make 'lowance foh de positioh oh de specs."—American Industries.

HER AGE MIXED WITH TELEPHONE NUMBER.

For the first time in the history of a semi-swell Third street family it was to have the luxury of a private telephone. The battery and wiring had been put in, and all that was necessary was the establishment of the connections. The handsome daughter of the household waited for the service to begin.

The welcome ring came at a time when she was the only member of the family at home. She rushed to the telephone and gave the answering "Hello!"

"Hello!" came back cheerfully. "You're 31."

"What!" exclaimed the girl, hardly able to believe her ears.

"You're 31," repeated the voice:

"I'm not; and don't you dare insult me. Why, I'm just a little over—"

The voice came back over the wire a jolly laugh.

"I'll have to beg your pardon, miss. I meant that 31 was your telephone number."—The Star.

DINAH MIGHT.

The Syracuse "Post" says that a girl baby was recently brought to a clergyman of the city to be baptized. The latter asked the name of the baby.

"Dinah M.," the father responded.

"But what does the 'M.' stand for?" interrogated the minister.

"Well, I don't know yet; it all depends upon how she turns out."

"How she turns out? Why, I do not understand you," said the dominie.

"Oh, if she turns out nice and sweet and handy about the house, like her mother, I shall call her Dinah May. But if she has a fiery temper and displays a bombshell disposition, like mine, I shall call her Dinah Might."

UNUSUAL CAUTION.

"I think I'll take a walk," remarked the commercial traveler, as he strolled away from the hotel. "Which is the way to Dewey street?"

"We hain't got any Dewey street," said the man on the hotel steps. "The city council passed an ordinance changing the name of Olive street to Dewey all right enough, but the mayor vetoed it."

"Who is the mayor?"

"He's a mau named Sampson. He said he reckoned we'd better wait till the war was over."—Chicago Tribune.

FROM DOOR TO DOOR.

"What does he do for a living?"

"I believe he belongs to a knockabout team."

"What? An acrobat?"

"Nothing of the sort. He and his wife are hook-agents."—Philadelphia Bulletin.

LIKE THEIR FOREFATHERS.

"I notice the exclusive people of New York amuse themselves by getting up family trees."

"Yes, and their simian forefathers did the same thing."—Cleveland Plain Dealer.

HOME-SEEKERS' EXCURSIONS.

On the first and third Tuesdays in July, August, September and October, 1898, the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets (good 21 days) from Chicago, Milwaukee and other points on its line, to a great many points in South and North Dakota and other western and southwestern states at about one fare. Take a trip west and see the wonderful crops and what an amount of good land can be purchased for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained on application to any coupon ticket agent or by addressing the following-named persons: W. E. Powell, Gen'l Immigration Agent, 410 Old Colony Bldg., Chicago; H. F. Hunter, Immigration Agent for South Dakota, 291 Dearborn Street, Chicago, or Geo. H. Heafford, Gen'l Passenger Agent, Chicago, Illinois.

Columbia

BEVEL-GEAR
Chainless Bicycles

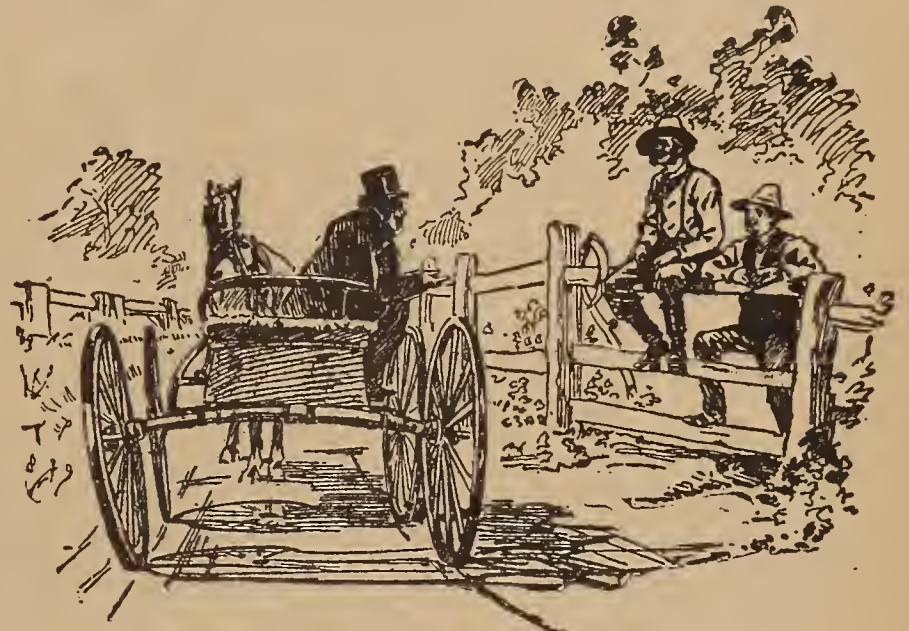
\$125

Columbia Chain Wheels, \$75

Hartford Bicycles, 50

Vedette Bicycles, \$40, 35

POPE MFG. CO., Hartford, Ct.

The 'Newest' Bicycle
with 'Oldest' NameMake Hill
Climbing Easy

VILLAGE DOCTOR. What is the matter with your folks, Jacobs?
 I haven't had a call here for more'n a year.

FARMER JACOBS. Mother bought some Ripans Tabules when she went to Rochester, and she says we don't need any medicine now.

V. D. The old lady is pretty smart. I suppose she notices by the taste that it is the same thing, in a different form, that I've been dealing out, spring and fall, ever since you were married in forty-nine.

F. J. Well, that is just about what she said—for a fact, doctor.

A new style packet containing TEN RIPANS TABULES in a paper carton (without glass) is now for sale at some drug stores—FOR FIVE CENTS. This low-priced sort is intended for the poor and the economical. One dozen of the five-cent cartons (120 tabules) can be had by mail by sending forty-eight cents to the RIPANS CHEMICAL COMPANY, No. 10 Spruce Street, New York—or a single carton (TEN TABULES) will be sent for five cents.

AMERICAN WOMEN

The very finest Parlor Book published for years at a price within the reach of ordinary homes, while its Literary and Reference value

can hardly be overstated. Its choice contents are well epitomized in the subtitle, which is "A Comprehensive Encyclopedia of the Lives and Achievements of American Women During the Nineteenth Century."

Edited by the lamented Frances E. Willard jointly with Mrs. Mary A. Livermore. Over 1,400 Half-tone Portraits and Magnificent Full-page Portrait Groupings. Send for our circular, "An Inkling of Its Contents." Specimen Illustrations and Full Particulars, FREE.

Any intelligent man or woman who will follow the carefully prepared instructions for selling "AMERICAN WOMEN" can handle this book successfully. Those of bookish tastes and who feel at home among cultured people do extraordinarily well with it. Lady Agents like this book most thoroughly, and are realizing large incomes every week. Write immediately, stating book experience (if any), territory desired, etc.

AGENTS WANTED

Address MAST, CROWELL & KIRKPATRICK, Springfield, Ohio.

RHEUMATISM

Permanently cured by using DR. WHITEHALL'S RHEUMATIC CURE. The surest and the best. Sample sent free on mention of this publication. THE DR. WHITEHALL MEGRIMME CO., South Bend, Indiana.

THE HANDY WAR BOOK

A new book of important and authentic information and statistics on the many subjects relating to the present war. Pictures of U. S. War Vessels and a classification of the various ships in the navies of Spain and America. Fine War Maps of Cuba, Porto Rico, Havana and Harbor, the Philippines, the West India Islands, and a large Map of the World. The Handy War Book, and Farm and Fireside the remainder of this year, 25 cents. Address Farm and Fireside, Springfield, Ohio.

Our Miscellany.

Mrs. Smith's colored girl was scrubbing the front porch, when a colored man came along, and the two engaged in a bandying of words and loud guffawing. When the girl came in the mistress said:

"Ambeline, who was that man?"

"Oh, he was jes' our preacher," was the reply.

"What was he saying to you?"

"Well, I am goin' to be baptized nex' Sunday, and he was jes' a-devilin' me 'bout it."—Trnth.

PASTEURIZED CREAM.

The use of Pasteurized cream for domestic purposes has spread extensively in the middle western states within the last few years. The example of several of the United States experiment stations in putting up Pasteurized cream in sealed bottles has been followed to some extent by the dairymen in cities, and the practice seems likely to become widespread. By Pasteurized cream is meant cream that has been heated to about one hundred and fifty-five degrees, Fahrenheit, a temperature which does not kill all the bacteria, but only such as are in vegetating condition and ready to begin their activity.

The advantage of Pasteurizing cream is that it makes it more convenient to handle, less apt to spoil, and frees it from disease germs. The cream will keep for days without souring, so that a small jar of it can be kept on hand for use from day to day until exhausted. A serious objection to Pasteurized cream, however, is its lack of consistency. The cream does not appear to be as rich as normal cream, being thinner and less viscous, and it does not whip as readily. The Wisconsin agricultural experiment station, after studying the problem for some time, has discovered that if lime in solution be added the consistency is restored. It is proposed to use lime dissolved in a solution of granulated sugar. This solution of lime in sugar is called "viscogen," on account of its viscous-producing qualities, and the treated products are called visco-cream, visco-milk, etc. Only one part of viscogen to one hundred and fifty parts of cream is required, and the small quantity of lime added, according to this rule, only amounts to about four parts in ten thousand, which, instead of being detrimental to the health, is rather beneficial. —Philadelphia Record.

POPULATION OF MANILA.

It is difficult to make even an approximate estimate to-day of the numerical population of Manila, but it probably consists of from 27,000 to 300,000 souls. The largest proportion of these, excepting the natives themselves, is composed of Chinese and so-called Chinese natives, exceeding even that of the Spaniards. There is a large colony of Germans and Swiss, who, according to rumor, are mainly responsible for the present and recent uprisings, and also a handful of Scotch-Englishmen; not too small a handful, however, to maintain an "English club" in the suburbs and a "Tiffin club" down town. The saying goes in the far East that if an Englishman, a Spaniard and an American were to be left upon a desert island, the first would organize a club, the second build a church and the third start a newspaper.

Half a dozen Americans are all that remain in Manila now, in sad contrast to the "old days," when two great American business houses flourished, only to go down almost together with a crash that was heard around the world. What is now the English clubhouse was built by one of these great houses for its "junior men," and on its back veranda white—very white—men "lie off" on Sundays and holidays and watch the coconut rafts drift by from the "enchanted lake," and read six-weeks-old papers and dream of New England pines and Scottish heather, 10,000 weary miles away. —Leslie's Popular Monthly.

ELECTRIC-LIGHT FURNISHES A TOAD HIS MEALS.

In a hole in the stone retaining wall of a lawn at the northwest corner of Prospect avenue and Independence boulevard lives an unusually large and well-fed toad. An electric arc-light hangs over the corner, and at night it attracts myriads of bugs and flies. It is then that the toad leaves his hole and hops out across the granite walk to where the insects, blinded by the light, fall upon the pavement and crawl around. The toad sits, his eyes sparkling in the electric-light like beads of jet, till a beetle or a moth falls near him, and then he hops cautiously near to it. His long, red tongue shoots out with the quickness of a flash and the insect disappears down his throat. It takes a good many bugs to make a full meal for this toad, and often he is on the pavement for more than an hour. The toad is there every night, and passers-by stop to watch him. He keeps out of the way of pedestrians, and when he goes back to his crevice in the stone wall he moves lazily and with short, self-satisfied hops. —Kansas City Star.

FASHIONS IN HUMAN TEETH.

It is curious to what an extent the mutilation of teeth goes on among savage nations, and even among certain civilized people, such as the Japanese. With them a girl is never married without first staining her teeth black with a repulsive kind of varnish, and the custom is especially adhered to among members of the richer classes.

On the west coast of Africa a large proportion of the teeth are deliberately broken when children reach a certain age. Both in the New World and in the Old the custom exists of extracting the two front teeth of domestic servants. In Peru the custom has existed from time immemorial, and used to be a sign of slavery in the days of the Incas. This is also the custom on the Congo and among the Hottentots. Teeth are stained in various colors among the Malays.

A bright red and bright blue are not uncommon, and a bright green is produced with the aid of arsenic and lemon-juice. Livingston related that among the Kaffirs a child with a prominent upper jaw was looked upon as a monster and immediately killed. On the Upper Nile the negroes have all their best teeth extracted in order to destroy their value in the slave market and to make it not worth while for the slave-traders to carry them off. —Tit-bits.

THE SUN-CHOLERA CURE.

Take equal parts of
Tincture of opium,
Tincture of rhubarb,
Tincture of cayenne,
Spirits of camphor,
Essence of peppermint.

Mix together. Dose—fifteen to thirty drops in water; to be repeated in fifteen or twenty minutes, if necessary.

This is the original formula for the sun-cholera cure. It was given to the "Sun" in the "cholera year," 1849, by George W. Busted, then and now a practicing pharmacist in this city. It was published daily in the "Sun" during the summer of that year; it was published at intervals for several years, and again daily during the "cholera years" 1855 and 1866; and has been printed in the "Sun" probably 1,000 times since it first appeared.

The sun-cholera cure has been adopted into the United States pharmacopoeia, and is a medicine approved and valued by every medical man in the country. —New York Sun.

THE TAKING OF RICHMOND.

An old Confederate officer in the Omaha "World-Herald" tells this story of the civil war:

"Lincoln was urged from the beginning of the war to take Richmond, but talking of taking Richmond and taking Richmond were two different matters. General Scott, who was not retired until after several futile attempts had been made to take Richmond, was summoned before the president.

"General Scott," said Mr. Lincoln, "will you explain why it was that you were able to take the City of Mexico in three months with five thousand men, and have been unable to take Richmond in six months with one hundred thousand men?"

"Yes, sir, I will, Mr. President," replied General Scott. "The men who took me into the City of Mexico are the same men who are keeping me out of Richmond now."

RIVER OF DEATH.

The word Chickamauga, like a great many other proper names of places in this country, is of Indian origin. It is said to be a Cherokee name, signifying "the river of death," and according to a legend which has floated down among the Indians, the stream received its name from the accidental drowning of the people of a village by a sudden rise attributed to a cloud-burst. Chickamauga is another name of similar character, the Indian word signifying "turkey lick," or a place where turkeys are wont to assemble. Chicopee, the name of a town in Massachusetts, signifies "the place of birch-bark." —Chicago Tribune.

UNITED STATES LEADS IN DIAMONDS.

There are more diamonds in the United States than in any other country, \$500,000,000 being the estimate put upon them. This vast amount of diamonds is increasing every year. Diamonds do not wear out, and new ones are being constantly bought. Thousands of imitation diamonds are also being imported into the United States. Until quite lately there was no diamond-cutting done in this country, but now experts say we do better work here than is done across the water. In Amsterdam, which is the center of the diamond-cutting industry, no less than 12,000 persons are engaged in this work. —Chicago Tribune.

"Our people here," writes Mr. H. P. Greeno, East Troy, Pa., "think Peerless Atlas and other FARM AND FIRESIDE or the WOMAN'S HOME COMPANION one year, all for one dollar, the greatest bargain ever offered. I intend to follow the work right up."

Souvenir War Spoons

BELOW we show beautiful silver-plated spoons, with gold-plated bowls, which were designed especially as souvenirs and keepsakes of the great Spanish-American war. As the years go by these souvenirs will become more and more valuable, especially to those who have friends risking their lives in the great struggle for the independence of Cuba and the advancement of human liberty.

The illustrations below show the exact size of the spoons. The pictures of the commanders on the handles and the ships on the bowls are engraved sharp and clear, and the handles are beautifully ornamented. They are heavily silver-plated, with gold-plated bowls. These spoons sell in stores for 25 cents or more each, but by ordering them direct from the manufacturers in great quantities we buy them at a price which enables us to make the very liberal offers below.

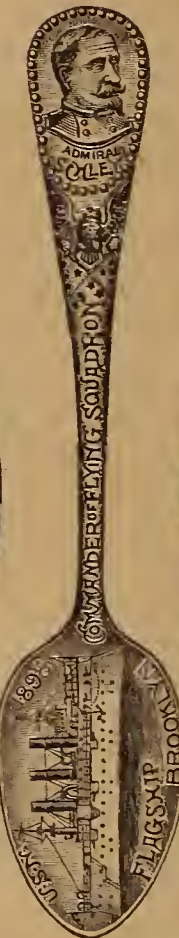
The spoon below shows Admiral Sampson, of the Atlantic Fleet, and his Flag-ship, the New York.

PREMIUM No. 645



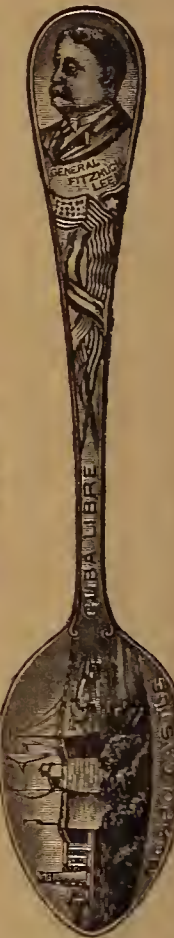
The spoon below shows Admiral Schley, of the Flying Squadron, and his Flag-ship, the Brooklyn.

PREMIUM No. 635



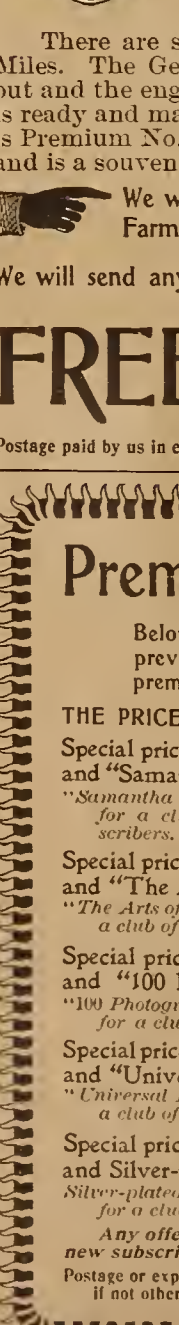
The spoon below shows General Fitzhugh Lee, and Morro Castle at Havana.

PREMIUM No. 625



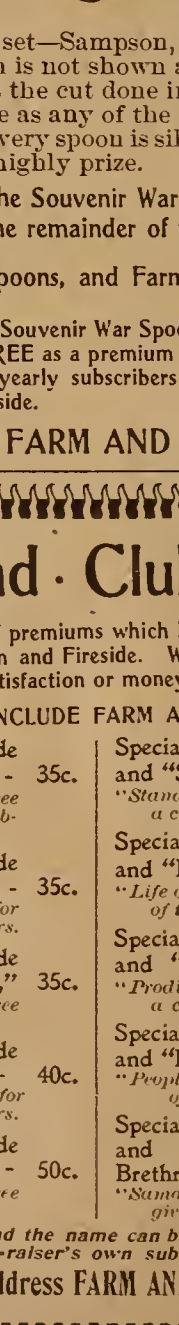
The above spoon shows Captain Sigsbee and his fated Battleship, the Maine.

PREMIUM No. 655



The above spoon shows Dewey, of Manila fame, and his Flag-ship, the Olympia.

PREMIUM No. 615



There are six spoons in the set—Sampson, Sigsbee, Schley, Dewey, Lee and Miles. The General Miles spoon is not shown above, because it is the latest one out and the engravers did not get the cut done in time. The General Miles spoon is ready and may be ordered same as any of the others. The General Miles spoon is Premium No. 665. Each and every spoon is silver-plated, with gold-plated bowl, and is a souvenir every one will highly prize.

We will send ONE of the Souvenir War Spoons, and Farm and Fireside for the remainder of this year, for **25 Cents**

We will send any TWO of these Spoons, and Farm and Fireside one year, for 35 cents

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All six of the Souvenir War Spoons will be sent FREE as a premium for a club of SIX yearly subscribers to Farm and Fireside.

EITHER of the above offers may be accepted and the name can be counted in a club. When paid-in-advance subscribers accept the above 35-cent offer their time will be advanced one year.

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Premium and Clubbing Offers

Below we list a number of premiums which have been fully described in previous number of Farm and Fireside. We guarantee each and every premium to give entire satisfaction or money refunded

THE PRICES GIVEN BELOW INCLUDE FARM AND FIRESIDE ONE FULL YEAR.

Special price of Farm and Fireside and "Samantha at Saratoga," - 35c.
"Samantha at Saratoga" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and "The Arts of Beauty," - 35c.
"The Arts of Beauty" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and "100 Photographic Views," 35c.
"100 Photographic Views" given free for a club of two subscribers.

Special price of Farm and Fireside and "Universal Dictionary" - 40c.
"Universal Dictionary" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and Silver-plated Berry-spoon - 50c.
Silver-plated Berry-spoon given free for a club of two subscribers.

Any offer may be accepted and the name can be counted in a club. Renewals and new subscribers, including a club-raiser's own subscription, may be counted in a club. Postage or expressage paid by us, if not otherwise specified.

Address FARM AND FIRESIDE, Springfield, Ohio.

Special price of Farm and Fireside and "Standard Cook Book," - 35c.
"Standard Cook Book" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and "Life of Lincoln," - 45c.
"Life of Lincoln" given free for club of three subscribers.

Special price of Farm and Fireside and "Prodigal Son Picture," - 40c.
"Prodigal Son Picture" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and "People's Atlas," - 40c.
"People's Atlas" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and "Samantha Among the Brethren," - 35c.
"Samantha Among the Brethren" given free for club of two subscribers.

The Handy War Book

What is the truth and the facts about the Spanish-American war? Where is Manila? What about the Philippine Islands? What is the history of Cuba and the other islands of the West Indies, and what is their size, population, resources, etc.? What is the strength of the armies and navies of the conflicting nations? What is the distance between this and that point? In order to answer these and hundreds of similar questions we have just issued THE HANDY WAR BOOK, which every reader of war news needs at hand.

FINE LARGE WAR MAPS

With each copy of THE HANDY WAR BOOK we furnish splendid war maps printed in colors. There are maps each of Cuba, Porto Rico, Havana and Havana Harbor, the Philippines, West Indies, and the largest and best Map of the World ever sold for less than One Dollar. The size of the Map of the World is 26 by 39 inches.

The large maps of Cuba (size 12 by 19), Porto Rico and the Philippines (size 9 by 13), show the provinces, towns, villages, harbors, rivers, railroads, trochas, etc. The map of Havana and Havana Harbor shows where the U. S. battleship Maine was blown up, and the location of Morro Castle and other fortifications.

The map of the West Indies shows all the islands between Florida and South America. To follow intelligently the movements of the navies as reported in the press dispatches from day to day these maps are indispensable. They show where Dewey, Sampson and Schley are, where ships have been captured, etc.

The illustrations of the war-ships in THE HANDY WAR BOOK are printed by slow presses on fine enameled paper with fine ink, and are as clear and beautiful as the photographs from which they were made. The sample picture here shown does not begin to do justice to the pictures of the different war-ships in the book.



The Map of the World shows the relative size and position of every country and island on the globe, their harbors, rivers, cities, etc.; the cable lines, the international date-line, the zones, longitude and latitude, corresponding time by hours in different parts of the world, and everything else an excellent map should show.

BATTLESHIP MASSACHUSETTS Under EACH illustration of the war-ships in The Handy War Book a description of the vessel is given, such as dimensions, speed, number and kinds of guns, number of torpedo-tubes, thickness of armor, number of officers and men, cost of ship, etc.

PICTURES OF U. S. BATTLESHIPS

THE HANDY WAR BOOK contains exact reproductions of photographs of battleships, cruisers, monitors, torpedo-boats, and all of the important vessels in the United States navy. It classifies and describes the ships in the Spanish and American navies, and defines the naval terms used in the press dispatches. It also points out the distinguishing difference between cruisers and battleships, torpedo-boats and torpedo-boat destroyers, protected and unprotected cruisers, etc., etc.

AN AUTHENTIC HISTORY

THE HANDY WAR BOOK gives an authentic history of Cuba, the Philippines and the other islands in the Atlantic and Pacific oceans around which the Spanish-American conflict is being waged, including the causes of the Cuban revolution and the present war, important statistics, and much other timely information which every reader of war news needs close at hand. The entire work is nicely printed on good paper. The book pages are 5½ inches wide by 7½ inches long.

 We will send THE HANDY WAR BOOK, with History, Maps and Illustrations as described above, and Farm and Fireside for the REMAINDER of this year, for

25 Cents

We will send The Handy War Book, and Farm and Fireside ONE full year, to any address for 35 cents. ❖ ❖ ❖ ❖ ❖ ❖ ❖ ❖

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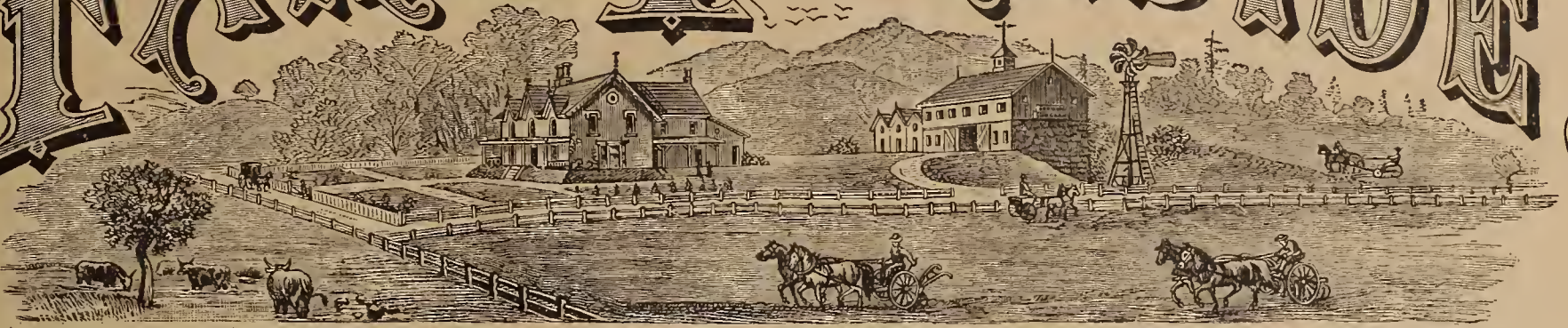
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Bible Offers**

on page 19

WITH THE VANGUARD

In regard to the receipts and expenditures of the government during the fiscal year ending June 30, 1898, Assistant Secretary Howell recently made public the following statement:

Receipts, including Pacific railroad items.....\$405,321,335
Expenditures, including Pacific railroad items..... 443,368,582

Leaving a deficit of.....\$ 38,047,247
If we exclude the receipts from the Pacific railroads, amounting to \$61,751,223, and the expenditures on this account of \$4,549,368, the account would stand as follows:
Receipts.....\$340,570,111
Expenditures..... 438,819,214

Leaving a deficit of.....\$ 98,249,103

"This large deficit is accounted for in part by the extraordinary demands upon the treasury to carry on the war. A conservative estimate of the war expenditures during the months of March, April, May and June is \$56,000,000. If we deduct this from the \$98,249,103 the deficit would be \$42,249,103. In other words, the deficit would not have exceeded this amount on a peace basis. At the end of the first seven months of the fiscal year the deficit was \$51,901,823. Deduct from this \$42,249,103 and we find that the deficit has been reduced during the last five months of the fiscal year \$9,652,719. It thus appears that during the last five months of the year our receipts exceeded our expenditures on a peace basis over nine and a half millions; or, to express it in another way, the tariff law of 1897 produced during the last five months of the fiscal year a revenue which exceeded our ordinary expenditures by over nine millions of dollars."

THE London correspondent of the New York "Tribune" concludes an interesting article on the plans and purposes of the great European powers as follows:

"The game has only begun. Let me outline in brief the full scope of it, as the three principals desire to play it.

"Russia means to have the lion's share of China, to annex Persia and in due time take Constantinople and Armenia.

"Germany expects to gather under her wing all German-speaking people and extend her borders to the Mediter-

anean, compelling the Bohemians to forego their beloved language, as the people of Alsace-Lorraine had to forget theirs; and as the Low Dutch are ancient kinsmen, Holland is to round out Germany on the North sea.

"Austria as a separate nation is doomed. The Slavs, except the Bohemian Czechs, may temporarily set up for themselves, under the protection of Russia.

"France will have free scope in North Africa, with reversionary rights to whatever of Spain she can assimilate. It is a very pretty deal all around, and will require, providing there are no hitches, a good part of the twentieth century to carry through.

"There are several factors which the three great gamesters have to reckon with beside the probabilities of disputes among themselves. England is not a decaying power, and Italy has still a chance of renewing her youth and vitality. Japan is very virile. And all at once the United States looms up grandly on the scene. She has stretched a giant arm across the Pacific, resting her elbow on Hawaii and her wrist on the Ladrões, while grasping the Philippines. Continental Europe is dumfounded. Does this young western giant mean to hold what she has laid her hand upon? Is she going to obtrude herself into the Orient in this unceremonious manner? Does she not mean to ask leave or license of the great powers?

"These are the questions which at least three of the cabinets of continental Europe are asking to-day. And their fleets at Manila are the interrogatory points punctuating their queries.

"In very truth, as all the world says, and some of the rulers of a goodly part of it with bated breaths, 'the United States have with a gigantic leap arrived at the parting of the ways!' Do the people of the United States realize that they are there? They are eighty millions of the most intelligent, self-reliant, resourceful people on the face of the globe. They possess unlimited resources in material wealth, and have the capacity and energy to develop their inheritance. Will they halt and turn back at the demand of any power or powers of Europe?

"Unquestionably there is the disposition to make the demand. There is concert upon the part of at least three powers of Europe to that end, and doubtless a fourth would join at the request of the three others. England will not join, and it is pretty certain that Italy will stand by England. But will England have more courage in this case than she had when invited to join in checkmating Japan? Will the English government in no uncertain tone say, 'hands off'?

"There is upon the surface every indication that the English people will demand of their government an unhesitating, bold policy. There has not been the slightest indication of a want of sympathy on the part of the government toward the United States, since the war with Spain appeared to be, and proved to be, inevitable. More than this, there was, before relations between Spain and the United States became strained, evidence of goodwill on the part of the English government to the United States. The movement, which originated here previous to the beginning of the Spanish war, to promote more friendly relations between the English and American people has grown in strength and importance, and with few relatively important exceptions, has the hearty support of the British press. It is stated upon good authority that Mr. Balfour, the leader of the House of Commons, is a warm friend of the United States. There is no doubt as to the attitude of Mr. Chamberlain. It is believed that every member of the government is friendly, although Mr. Chamberlain alone has publicly expressed unqualified views in regard to an alliance with our country. All the leaders of the Liberal party, except Lord Rosebery, have proclaimed their sympathy with the public agitation for a closer knitting of the ties between the two nations.

"There seem to be well-founded reasons for believing that the continental powers will view with disfavor the retention of the Philippine islands by the United States. It is probable that there will be an attempt to form a concert of European powers to interfere in the settlement of terms of peace between Spain and the United States.

I think there is quite sufficient ground for believing that Germany intends to insist upon obtaining the Caroline islands and a coaling station in the Philippines.

"The intentions of Russia and France are not so apparent in respect to snaring in the plunder, but it is certain that they will endeavor to make it impossible that England shall profit in any way. Austria will confine herself strictly to good offices in behalf of Spain.

"Is there a secret understanding between Germany and Spain in regard to the cession to the former of any of the latter's possessions? Probably there is, but it by no means follows that such an undertaking will be carried out. In all probability there will be a revolution in Spain, and the overthrow of the present government will render the carrying out of the bargain impossible.

"That the United States will suffer any power or powers to dictate what her policy in regard to the Philippines shall be is, of course, impossible. She will determine that herself.

"What she will determine is another question. The fact cannot be blinked at that she has arrived at the parting of the ways, and in the near future her people must decide for themselves and for their posterity the course they will pursue. It is a momentous question, and upon the decision thereof 'events of great pith and moment' depend. It is to be hoped that in the consideration of this momentous question calm reasoning alone will be brought to bear, and that partisan feeling and party prejudices will not disturb the great debate. A very wise man, a foreigner, who spent the best years of his life in the United States, and was a close observer for more than twenty years of our people, said they were of all people in the world 'the most level-headed.' They have in the past merited this high praise."

SENATOR DAVIS, chairman of the foreign relations committee, in a notable address recently delivered at St. Paul, said:

"The United States must become an efficient element in the Asiatic situation, or it must entirely abstain from any participation in it, return to its own shores, receive the smallest possible share of its commercial advantages, and prepare for its own defense against the same aggressions which have reduced China to her present condition. It may be objected that all this is without precedent. So it is. But all great human evolutions must precede precedents in order to create them. . . .

"It is now manifest that the United States will be, at the conclusion of this war, a great and actual naval and military power. Many thousands of her citizens will be trained to modern warfare on land and sea. The military spirit has inspired the people. They have been raised to a higher plane of patriotism. The additions to our fleet have been very considerable, and that fleet never will be less. The appropriations for its increase, already liberal, will continue to be so. The astounding victories at Manila and at Santiago have convinced our people of the vital importance of the sea power. The organization and operation of a great army and navy will teach them their own strength.

"The heroism of our soldiers and sailors will be a heritage of national glory and honor. Our people were carried to the highest top of national pride by witnessing at Manila and Santiago (to paraphrase Napier) with what majesty the American sailor fights. It is also perceived with the greatest satisfaction that certain exponents of European opinion, who until recently spoke with a condescending assumption of superiority in intervening in the present contest, have abated their hantour of expression.

"The conviction, heretofore only imperfectly felt and only partially, infrequently and fitfully acknowledged, is now clearly operative, and is openly and spontaneously expressed, that the 125,000,000 people who speak the English language, who have established representative governments and maintained personal liberty in every portion of the world, whose conceptions of faith, literature, morals, education, popular government and individual freedom are cognate at all times and everywhere, whose civilization, though developed, is not decadent, but is still progressive, who have heretofore taken no step backward in an expansion of influence and empire without comparison in history, are amicably approaching each other under the pressure of a great human evolution."

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Postage-stamps will be received in payment for subscriptions in sums less than one dollar, if for every 25 cents in stamps you add one-cent stamp extra, because we must sell postage-stamps at a loss.

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When renewing your subscription, do not fail to say it is a renewal. If all our subscribers will do this, a great deal of trouble will be avoided. Also give your name and initials just as now on the yellow address label; don't change it to some other member of the family; if the paper is now coming in your wife's name, sign her name, just as it is on the label, to your letter of renewal. Always name your post-office.

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We believe that all the advertisements in this paper are from reliable firms or business men, and do not intentionally or knowingly insert advertisements from any but reliable parties; if subscribers find any of them to be otherwise we should be glad to know it. Always mention this paper when answering advertisements, as advertisers often have different things advertised in several papers.

ABOUT RURAL AFFAIRS.

The Hay Crop. What are we going to do with all this hay? We have barns full and stacks full, big stacks at that, and the demand for even the best of it is very limited. Unfortunately, too, much of our hay this year is rather weedy, in fact, too weedy to sell in a season of bounteous hay supply. (I hasten to say, however, that it came from rented land. An owner of the land surely has no business to raise weedy hay.) An editorial in one of the recent issues of the "Mirror and Farmer" wrestles with the hay problem and makes the following suggestions:

* * *

Keeping More Stock. "When this immense crop of hay has been cured and stored in the barns, and the crop of corn now growing has been stored in the crib or silo, it will constitute feeding material far beyond the capacity of the live stock now upon New England farms. The crop in other sections of the country does not indicate that the present price of ten dollars on the farm will be much, if any, increased. This price can be realized from it if fed to cows, sheep or growing stock properly selected, and leave the manure resulting from the feeding for the care and labor. Not a ton of good hay need be sent to market at this price, for it can be realized upon the farm. This is a great opportunity to increase the farm stock, which has been terribly reduced, and instead of selling hay, sell the product of the hay in the form of milk, butter, wool, mutton or beef. If the farms were stocked to the full feeding capacity of the present season's forage crop they would present something of their old-time appearance, and the sales from the farms would approximate their old-time amount. And then, if the farmer should limit his expenses to the amount of earlier times, there would be a profit from the farm. There has not existed a time for twenty years when the income from the farm properly stocked and properly handled was more promising than at the present time, and if the expenses were made proportionately low, there has not been a better time to make money from the farm."

At first glance this advice might look reasonable and sensible. It is good advice

so long as it is not generally carried into practice. Even now it may point out a way of salvation to the few progressive farmers who act on it; but it will not help the great majority any more than the advice (which was current some years ago in the East) to grow high-priced horticultural products rather than low-priced farm crops did help the great mass of farmers. When a goodly number of people did abandon farm crops, and engaged in the production of garden stuff and berries and grapes and winter vegetables grown under glass, etc., the bottom fell out of the business, and the expected and promised profits did not materialize.

* * *

In the attempt to use our surplus hay profitably by keeping a larger amount of farm stock we meet with the one great obstacle that cows, horses and calves cannot be made to order in unlimited numbers, or milk and butter be produced at will in unlimited quantities. It takes time to grow the stock. Neither will it pay to procure stock indiscriminately wherever it can be had. It is only good stock that will leave us a chance for profit. The "Mirror and Farmer" recognizes this, too, and says: "There is no profit keeping cows whose gross income is but thirty dollars a year, for after paying for the grain, pasturage and labor nothing is left for the hay, and the more such animals are fed the more hay is thrown away. The increased productiveness of a farm amounts to nothing when fed to such animals. There is nothing received from feeding hay to sheep that yield but three or four pounds of wool and fifty per cent produce lambs, for the grain, pasturage and labor in this case eat up all the income, and the farmer who tries to grow beef with animals ill adapted to the purpose will find precious little return from the hay fed. To stock up with such animals as these would be no advantage whatever. The increased hay crop would be wasted. Buy cows, sheep or young stock adapted to the purpose, feed and care for them well, and the present abundant hay crop will increase the farmer's income and the productiveness of his soil, and give a remarkable impetus to the already improved conditions of New England agriculture."

* * *

The problem before us then is where to get this good stock. The demand will raise the price, too; as in times of scarcity of fodder stock is invariably cheap, and in times of abundance it is high. This is a double advantage for the person who already has or can procure good stock. I know that it is quite a task at any time to buy a really good cow at a reasonable price, while one can find plenty of ordinary or poor ones for a little money. Chance opportunities should be promptly taken hold of. On the whole, too, this is a good time to raise every good animal. Let the slaughter of the innocent calves cease for awhile. The stock of sheep, of course, can be more rapidly increased than that of the larger animals, and I believe that under present conditions the sheep industry should be given a renewed or bigger boom than ever.

* * *

Hay Prices. I greatly doubt that hay for feeding is worth ten dollars a ton, and do not believe that the average farmer could make much money by keeping even fairly good stock when obliged to pay ten dollars a ton for hay. The average hay has but little more feeding value than good straw. We can keep farm stock, horses and milk-cows included, far more cheaply and profitably by feeding silage or good corn-fodder, and grain, bran, oil-meal, etc., than by feeding hay, especially timothy hay. When I can get ten dollars or more (and perhaps even less) a ton for my timothy hay, I quickly sell every spear of it. I find it much the cheaper plan to feed only just enough coarse stuff (mostly corn-stalks) to give the needed bulk, and to rely on the proper nutriment, chiefly on my mixture of bran, ground oats, corn, rye, etc., and oil-meal. If I had more stock I would surely use silage rather than any other kind of coarse fodder. Silage is the thing for home feeding. Hay is good enough for sale.

* * *

The Plum and Quince Curculios.

The curculio frequently does great injury to my plum crops, and in some sections the quince crops also suffer much from a similar pest. For some years

I was in hopes that I could conquer the plum-curculio by spraying with a poisonous liquid (Paris green); but later experience has shattered this hope, and I now have had to fall back on the old "jarriug" process. Prof. M. V. Slingerland (Cornell University experiment station) gives in Bulletin 148, issued from that station for May, 1898, a full account of the quince-curculio, and of all possible methods of fighting it. What interests me most in this bulletin is the following allusion to "Hogging the Orchard." "In one quince orchard, Mr. R. A. Barnes, of Lockport, N. Y., allowed hogs to run from early in the spring until just before time to gather the fruit, when, because they would reach up and pick the fruit, they were excluded for a time; small grain was from time to time scattered on the ground to induce more thorough rooting by the hogs. From this orchard he gathered his finest fruit. Either the orchard was not badly infested by the insect, or else the hogs found most of the grubs in the spring before they transformed into beetles." For many years I have been in favor of cultivation by pig-power for orchards, for I have always observed good effects from it on the fruit and the yield. I think hogs might be utilized much more extensively than they are for such purposes.

T. GREINER.

SALIENT FARM NOTES.

Fairs and Races. September is the month of fairs, and I would advise every farmer to attend at least one. If there is a good county or local fair within driving distance, by all means attend it, and if possible exhibit some of the choicest products of your farm. If, however, your county or local fair is simply a "horse-meet" and fakir exhibition, don't go near it. Its influence is wholly bad. I am as fond of good horses as anybody, but do not believe in making them the sole attraction of a fair. A fair run wholly in the interest of racing stock and jockeys is no more an agricultural exhibition than is the moon, and it is not right that it should be advertised as an agricultural exhibition. As a general thing, the races run at these "agricultural horse-trots" are not honestly conducted, and the person who attends one for the sole purpose of seeing an honest race will, at least three times out of five, be disappointed. I have seen horses that were well able to win, in fact, almost distance the field, held back because many of the unwary had bet on them.

* * *

Races draw people to a fair who scarcely know the difference between corn and potatoes, and who care nothing for the farmer nor the things that interest him; and if they must be entertained, let it be on the last day of the fair. By that time those who attend to exhibit the products of the farm, orchard and garden, improved stock and the newest labor-saving machinery will be ready to leave, while those who go to see these things and learn how agriculture is advancing will be gone. Then those who are interested only in racing can have their fill. But the association that gives the greater portion of its receipts to the managers of fast horses will go to the wall as sure as the sun rises.

* * *

I am satisfied, however, that horse-racing is prejudicial to the best interests of a fair. Horse-racing and farming are incompatible. Every close observer is well aware that when a farmer goes into the fast-horse and racing business his farm soon goes into the hands of the sheriff. This being the case, why in the name of common sense should racing be considered a vital part of an agricultural exhibition? To encourage the breeding of better horses, says one. Is there any place on the farm for a race-horse? None that I know of. And the sooner a farmer gets this fact settled in his mind the better for his farm and his finances. The bankruptcy of about half the county fair associations throughout the country proves that horse-races and fakirs will not sustain them. Nearly every defunct fair association owes its demise to the opening of its gates to racers and fakirs and making them the chief attractions. It was the beginning of the end when side-shows and swindling contrivances were admitted and the best part of each day given up to racing, called "exhibitions of speed" and "events" on the posters. Then the better class of people began to stay away, and in a very few

years the associations closed their gates for good.

* * *

A few years ago I met a prominent farmer at a county fair, and he hailed me with: "Well, what are you doing here?" "Just came over to see what the fair was like."

"I'll tell you what it's like," said he. "It's about eighty per cent worse than the midway was at the World's Fair! It has degenerated into an exhibition of side-shows, an aggregation of fakirs and a convocation of jockeys and gamblers. I'm just starting for home, and this is the last time I shall ever be caught in a place like this!" Hundreds of the best farmers in that section followed his example, and the fair is not.

* * *

If your county or local fair is in the hands of men who are trying to make it a real agricultural exhibition, by all means do everything in your power to aid and encourage them. Exhibit some of your choicest products in an attractive manner, and get a premium if you can. I knew two little girls who made an exhibit of the products of their father's farm, garden and orchard, in neat little baskets nicely decorated, and on a board table draped in an artistic manner by their own hands, and they captured over twenty dollars in premiums. Encourage and assist the children in this matter, then take the whole family and camp one night on the grounds and have a happy old time. Have some of the neighbors join with you, as well as your friends in other parts of the county, and you can have a great family jollification all together.

* * *

Outing. If there is any time in the year when the farmer can take a little outing it is this month. Of course, the land must be prepared for fall wheat; but unless one is trying to do more than he can this will not interfere with his outing. Nights are lengthening and growing cooler, and generally are just right for camping parties and jollification. Take a good supply of provisions along, and eat, laugh and be merry. Don't wear a stiff white shirt, choking collar and a heavy black suit, but wear something you can climb a tree or stand on your head in, if you want to. And if the ladies are wise they will not array themselves in purple and fine linen, but they will dress so as to feel thoroughly comfortable and fear neither dust nor a sprinkle of rain.

* * *

A little outing at this time and of this sort costs so little that one will never miss it, while the amount of enjoyment he will get out of it, if he goes for enjoyment and not to criticize and whine, cannot be computed in cold cash. If you exhibit anything and fail to capture a premium, don't get mad and make a crank of yourself, but critically examine the premium articles and see if you can't beat them next year. The purpose of premiums is to encourage the production of the best and to stir up the spirit of competition.

* * *

A farmer doesn't need fresh air. He gets plenty of that on the farm. What he needs is a change of associations. He and his wife need an outing to take them from their never-ending round of chores, to lift them out of the ruts and broaden their minds.

FRED GRUNDY.

A TROLLEY FREIGHT ROUTE.

The Penn Yan trolley system runs down to Branchport, on the shore of Lake Keuka, and passes along by many orchards and vineyards. When a car-load or more of fruit is to be shipped by the growers along the trolley line, fruit-cars are switched from the railway to the trolley, sent to the desired location, filled with fruit, and then sent back to the railway. The trolley company has powerful motor-cars to haul these railway freight-cars, they being without trolley equipment. This system is an economy of labor and trouble, and must be as great a convenience to the railway as to the shipper, since it does away with the detention of cars upon a switch during the process of loading. It is not everywhere, however, that the trolley and the railway will co-operate in aiding their patrons, for there is often a very keen rivalry between them—Rural New-Yorker.

Our farm.

FARM THEORY AND PRACTICE.

RUINING THE HAY MARKET.—Recently an observing farmer said to me, "We need not expect fair prices for hay in our local markets this year. There is a big straw crop, and corn promises to afford lots of fodder." In that farmer's locality the demand for timothy hay at remunerative prices has been destroyed by the freedom with which low-priced wheat straw and corn-fodder have been drawn from the country to the towns. Owners of horses and cows in the towns have learned that they can substitute the straw and fodder for hay with good results, and are led to do so by the cheapness of the substitutes. Such a policy is bad for the farmers and their farms. While destroying the market for higher-priced articles they are selling off the cheap feeds that should be converted into available plant-food for the soil. Our soils are becoming compact as they grow older, and need coarse and bulky manures. The mineral plant-food in the straw and fodder is worth frequently the full net price received, and the value of these materials in their mechanical effect upon soils is wholly lost. As a rule the by-products of grain crops are worth more on the farm than the market price, and while there is profit from converting them into manure, the demand for hay is not disturbed. It takes good management to maintain fertility while selling off the timothy at good prices, from which there is profit that enables one to buy commercial fertilizers or devote time to manurial crops; but when the plant-food is sold off the farm in low-priced feeding stuffs, and the substitutes lessen the income from hay at the same time, the outlook for keeping farms fertile and making some money for them is not bright.

STACKING GRAIN.—It is my observation that the practice of threshing wheat from the shock becomes more general each year. Its popularity is due to the fact that it is a rapid method of caring for the grain, and that is much in its favor; but there are some disadvantages too often overlooked. Beyond question the grain is brighter and probably plumper when it has been sweated in stack or mow. It is more attractive upon the market, and this year that is a big consideration in many sections on account of the inferior quality of the grain. There is always danger of having some tough or wet wheat when threshing, and when the grain is stored the danger of weevil is greater on account of the moisture resulting from sweating. But the practice is especially responsible for the placing of straw-stacks in such places that little value is gotten from the straw, and the temptation to sell it for a trifle rather than try to convert it into manure is increased. When wheat is put into mow or stack, there is time for removing the manure from the basin that should be in a stock-yard by the barn on every farm that has surplus straw not needed for mowing in the barn for feed or absorbent in the stable. As one goes through the country by rail he sees stacks of straw throughout the great Ohio valley that have been made wherever most convenient in the rapid handling of the wheat. For convenience in getting the straw just where it should be, and for the improvement of the quality of the grain, stacking has a material advantage over threshing from the shock. This year wheat is doubtless unduly low in price as a result of exaggerated crop reports and the usual efforts of dealers to secure their supplies at a very low price, and more general stacking would have decreased the amount now being dumped upon the market.

WATCH FOR WHITE-TOP.—There is no other weed that does as much injury to Ohio meadows as white-top. It is called a "winter annual." That is to say, the plant begins its life in the summer and fall before it does its injury to our meadows. Now is the time to watch for this weed. If it does not appear in the young clover or grass this fall, it will not be there next summer, ruining a hay crop. It has a leaf whose upper part is nearly round, with long, erect stem, and the top dies down in the fall, ready to make a new growth the following spring. A close examination will show whether these plants

are abundant enough to seriously injure the coming hay crop, and if they are, the field may be broken for wheat or for corn in the spring. It is unnecessary to let the field go until the weeds make a great show the next summer, and there is not time for a plowed crop.

NO PAY IN OATS.—South of the fortieth parallel of latitude, in the central states, oats are not a profitable crop. A considerable acreage is sown each spring, partly because they are wanted for feed and can be grown on land that would not make a crop of corn, and partly because they are the only small-grain crop that will occupy land which was not seeded the preceding fall. I do not believe that a farmer can afford to grow grain for feed on land that is too poor to produce corn and he can buy oats cheaper than he can produce them, four years out of five, in the heat of southern Indiana and Ohio. The crop is a poor one with which to seed to grass or clover, unless entirely too thin on the ground for a fair yield. There would be less expense and worry, and more benefit to the land, if rye was seeded rather heavily the preceding fall for pasture the next summer. Timothy and clover could be sown in the rye, or the rye sod could be broken for wheat. In that case a mower should be used to prevent any rye-stalks from forming grain. For thinnish land nothing excels rye as a crop with which to seed clover, if the rye is pastured early and then allowed to make a partial crop of grain that is harvested with hogs.

ABOUT VACATIONS.—Of course, the business man in the city should have a vacation, if he can afford it, and so should the society ladies, and the office-holders, and the clerks, and the dudes; but the one that needs a vacation most of all is the farmer's wife, who plans and prepares hot meals for a household throughout the year. She may not care to go to the seashore, or to go fishing with a supply of bait in a jug; but she should be lifted out of the everlasting grind of three hot meals over a hot cook-stove every day by some sort of relief from such work for a portion of the heated season. It may not be practicable for her to even leave home at all, but much can be done to make her work more hearable. There should be a cool kitchen—one that is shaded and has all the fresh air that is going. In that kitchen there should be a stove that can cook a meal without cooking the cook. This is a day of successful and cheap oil and gasoline stoves. They can be used to prepare all the breakfast and supper any one needs, and are used by tens of thousands for preparing dinners that require the usual boiling and baking. There should be a good supply of fruit to take the place of dishes that must be prepared over a stove. There should be convenient water, and there should be a boy that will do all outside chores. Above all, there should be a household that is willing to dispense with hot suppers and the usual supply of greasy dishes during the red-hot weather of August. This does not apply to many farm homes, it is true, but there remains a considerable number in which the hardships of the housewife during July and August are greater than men would bear if places could be exchanged. DAVID.

CUBA AND THE AMERICAN FARMER.

The probability that Cuba, the "Pearl of the Antilles," will soon come under the control of the United States, at least nominally, has excited great interest in the island, its people and their characteristics, and the advantages and disadvantages to the Americans who may think of migrating to that favored land in hopes of bettering their financial condition. The newspapers and magazines of the day have given fairly good accounts of the people and their customs, and have made the most of the hardships of the rainy season, not forgetting to enlarge upon the possibilities of the island when American capital and energy is invested there.

During the past fifteen years my horticultural and journalistic work has taken me to Cuba twice, and on each occasion I came into rather close contact with the portions most interesting to the American farmer; and I am free to confess that in my opinion there are great possibilities on the island from this standpoint. It will yield a larger income on a smaller invest-

ment than land in our own country, when it can be brought in quick communication with the seaports.

Under Spanish rule it has been impossible for the native soil culturist to get the most out of his land, either in crops or in money, and he has wanted for many things in the way of farm accessories from the United States, which the tariff (practically prohibitive) has prevented him from having. When American money and energy gets a foothold, it is possible to foresee almost wonderful results from this land where fertilizers are practically unknown. It is not my desire to create in the mind of the reader a longing for this favored soil and climate, but simply to show what may be done there under the conditions which will probably exist. There are in Cuba thousands of acres of what may be properly termed public lands, and it is this land the American has in mind. To make much of this land valuable will require heavy investments in roads and railways, for at this time they can only be reached by bridle-paths of the most primitive sort. That this necessary investment will be made there is no doubt, but the chances are that the best of this so-called public land will be given by the Cuban government to the patriots who have fought through the rebellion about ending. There is, of course, no certainty that this will be done, but it is in harmony with the American idea and would be but a fair return for the sufferings these patriots have undergone. The remaining lands will doubtless be offered to the public, the American preferred, at low prices.

The interested reader may not consider this state of affairs very attractive to prospective American investors, but from my knowledge of the Cubans, what is likely to follow is this: I am impressed with the idea that it will be but a matter of a few months after the public lands are divided as above, if they are so divided, that much of the best of it can be bought at low prices. The native Cuban is not anxious to work; his needs are few, and many of them are bountifully supplied by nature with but little effort on his part. He has none of the dreams of wealth or even comfort as these terms are known to Americans, and he is a thorough believer in the word "manana" (to-morrow), as signifying that it will take care of itself. It is not possible to say what areas of land will be given these Cuban patriots, but should it be, say, seventy-five acres, it would be beyond his capacity to appreciate. Five acres will supply his simple needs in profusion, and he will not be able to resist the temptation to sell the balance. The price of fifteen or twenty dollars an acre would amount to a sum beyond his wildest dreams of avarice. It will be understood that I am speaking of the rank and file of Cubans, negroes and creoles, for the better class are too intelligent to dispose of their birthright for a mess of pottage. To a certain extent the plan as I have outlined it is a mere matter of conjecture, but it seems probable from all information available at this time, and also in view of the fact that this has been the plan of procedure in similar cases the world over, that events will form themselves about on the lines indicated.

What the effect of Cuban independence or even, later, annexation may have on the American farmer it is too early to even conjecture. That to the present soil products of the island, mainly tobacco, maize, rice, coffee, sugar-cane, bananas and so forth, will be added the tropical fruits, potatoes and other vegetables, horses, cattle and swine, no one who knows the indomitable resources and energy of the American can doubt; nor can it be doubted but that these things will be raised about as soon as he finds himself in possession of the land. In my opinion Cuba offers great inducements to the wide-awake and ambitious young American many fold greater than our own great cities, where so many of our farm-bred young men are going, only to find they must accept positions very low down on the ladder of fame and progress. My writings for years will refute any thought that I favor the exodus from the farms of our young men, for on the contrary I would do much to keep them there; but if he will leave the farm, I believe he can use his knowledge to much better advantage in Cuba than anywhere else within easy reach of his home.

A word of warning. Do not rush to Cuba. Study the question thoroughly, get all the information possible, go over your abilities and resources carefully, put what

you may gain against what you may lose by leaving home and going not only to a strange country, but among a strange people, whose language is not your own. If you decide to go, take my advice and have a reserve capital at least large enough to bring you home again should expectations not be realized; and further, if you go, go with the idea in mind that you will have to work for all you get in Cuba, as you do in the United States. There are no fortunes there for the lazy man, unless he has capital to invest, any more than in the United States. Any information I possess relative to Cuba and the opportunities there is at the service of the readers of FARM AND FIRESIDE, and I will be glad to answer briefly any questions not answered in the literature of the day, if they who write will number their questions, leaving three or four lines of space between each, and inclose a self-addressed stamped envelop, and wait a reasonable length of time for a reply. Possibly I may be laying out for myself work of greater magnitude than I expect; but if so, I am in hopes that the editor will permit my replies to appear in these pages.

GEO. R. KNAPP.

CORN-SMUT.

Every farmer who raises corn knows the cankerous growth, with its veil-like skin and black, dusty interior, that appears on the ears, stalks and leaves. But it is probable that few realize the damage done annually by this parasite. If, in the state of Ohio, the loss in 1895 was \$125,000, what must have been the loss the country over? The loss is not confined to the ears affected, but it has been found that plants infested in any of their parts yield much less than others free from the disease.

The disease gains entrance to the plants at any time during its active growth, and not, as in the case of oats, wheat, etc., only when small. The spores, or seed-bodies, of the fungus quickly germinate in the dew on the plants, and soon find an entrance into the tissues. Once inside the parasite grows with great rapidity, often producing the smut-boils in three weeks, soon after which they are ready to spread the disease to other plants.

An economical method of fighting this disease is to cut and burn all the smut masses. This can easily be done during the early portion of the growing season, while the crop is being cultivated, a basket being carried on the cultivator to hold the bunches cut off. When the crop is laid by a boy can easily keep the disease in check by visiting the field and cutting out the masses once in ten days or two weeks.

Since, when eaten, the vitality of the spores is not destroyed in passing through the animal's body, but is still able to propagate the disease, as little as possible of the smut should be present in the corn-fodder, stover and ensilage. The spores are carried to the field in the manure, in which they seem to germinate under favorable conditions, and thus spread the disease when the new crop comes on.

It is a very common opinion that corn-smut is injurious and even poisonous to the stock eating it, the so-called stalk-disease of cattle and the abortion of cows being laid to this cause. Such, however, is not the fact, as the following will prove. Experiments lasting seven weeks, in which a number of milking and pregnant cows were fed corn-smut in amounts varying from two ounces to eleven pounds daily, showed no apparent change except the darkening of the manure. The general health of the animals and the yield of milk was regular and constant, no variation from the normal being observed. Moreover there was not a single case of abortion. It is at once apparent that no cow could obtain as much corn-smut by ordinary methods of feeding as was fed in these experiments.

The smut itself resembles the coarse fodders in composition and does not contain poisonous alkaloids, such as ergotine, which is found in the smut of rye and which is noted for its physiological properties, among which is the well-known action upon the reproductive organs of pregnant animals. As a matter of fact, cattle eat corn-smut readily, and many of the cows experimented with ate it in preference to grain up to the close of the test. From these data it is probably safe to conclude that no injury will follow the consumption of corn-smut as found by the individual cow either in the field or in the stall.

M. G. KAINS.

Our Farm.

NOTES FROM GARDEN AND FIELD.

WEED CARPET.—In the August 1st issue of FARM AND FIRESIDE I see what my friend Fred Grundy says in regard to keeping control of the weeds by disposing promptly of the late crop. The carpeted garden of which I tell in the same issue offers an easy solution of the weed problem. I forgot to speak of this at the time. Weeds, indeed, come often very handy as a mulching material. While we have fence corners and waste places grown up with a wild growth, and looking neglected and forlorn, there is no need of leaving the bare ground between the rows of vegetables and small fruits without a protecting mulch for want of material with which to cover it. Of course, we must cut or pull up these weeds early; that is, before they have produced seed that could possibly grow. Otherwise we might do a great deal of damage by filling the ground with weed-seeds from the mulch. I use even briars and raspberry sprouts, and, in fact, everything that comes up through the mulch or in waste corners anywhere on the place for the same purpose. The young growth is simply pulled up or cut down, and then thrown down upon the mulch already there, or on the bare ground that I desire to mulch. There it fulfils its mission and then gradually decays, adding humus and fertility to the land. It is, indeed, a way to turn a curse into a blessing.

WEEDS FOR HOGS.—Another good use I have for weeds is to feed my hogs with them. The hog is really a grazing animal. In nature it lives on green stuff and roots. The one weed which we are compelled to fight, and which will sometimes get the better of us (for instance, in the onion-field), is purslane. When that is the case, I try to have it pulled up by the roots, and then from time to time throw a wheelbarrow load of the succulent spreading bundles of greens into the hog-pen. And what a lot of it can thus be turned into the porkers, and finally into pork! Other garden stuff, of course, goes with it—waste cabbages, waste roots (may they be radishes too old for sale, culls of beets, turnips, carrots, kohlrabi, etc.), unsalable apples and potatoes, lettuce-plants that have gone to seed, and many other things. Even the tomato culls go to the hogs, and are greedily devoured, although people occasionally tell us that a hog will not eat tomatoes. I am sure mine eat all the tomatoes they can get hold of at present. Often I have more such waste materials than my hogs can eat, especially of cabbage leaves and culls, etc. Then the cows are ready to take the surplus. They are very fond of tomatoes, too, and would eat them by the peck or bushel. Just at present, however, I do not feel like handing over to any kind of animal (except the human) even a single tomato that is sound, no matter if small or irregular. Now, the very last days of July, tomatoes yet bring readily over two dollars a bushel, and I only regret that I do not have more of them. I have been using ripe tomatoes a whole month already, and sold more or less of them for more than two weeks. Yet the call for them is such that I must sell in small quantities only, and then try to divide them up in this way between my customers and neighbors, so that all can have a taste.

CROPPING VERSUS WEED GROWTH.—Our garden beds and patches are not the place, however, where we would desire to grow weeds for either hog-feed or mulching. The cleaner we can keep them right through the better we will like it. Continued cropping is the solution of this problem. Just as soon as an early crop (such as early potatoes, peas, radishes, beets, green onions, carrots, kohlrabi or early cabbages, etc.) is taken off, the ground is cleared of the rubbish and refitted for another crop. Even as late as this we can and do sow turnips, summer and winter radishes, kale, kohlrabi, quick-growing carrots, spinach and other things. But quite frequently we have more ground to plant than we can use for the crops named. We may have large patches of early cabbages or early potatoes that become available for replanting. What to plant there may be a problem. Mr. Grundy recommends to sow sweet corn. I beg leave

to differ from him, simply because we have a much better crop to be used for the same purpose, and that crop is oats and peas. It is true that sometimes the season is not favorable for this crop, being too hot and dry. But in an average fall we can grow fine crops of the very best fodder for our cows by sowing oats and peas, to be fed green. I have sometimes given full feeds of this right along all fall, and thus secured another flow of milk really like the June flow. It is a crop, too, that will choke out all weed growth. Indeed, I know of no better way how to prevent the fall growth of weeds than by promptly sowing oats and peas.

THE FRUIT CROP.—Fruit is not overabundant, but what little we do have sells very well. It has come to pass that we must look to and hope for a partial fruit failure when we want to make any money in fruit-growing. My red raspberries brought me readily eight cents a quart. The big Columbus gooseberries sell quickly at five cents a quart. They are a really tremendous crop and hang so thick on the branches that it takes only a few moves with the hand to strip off a quart of berries. But the plants have sharp thorns and lots of them. I am going to do more severe pruning hereafter, so that one can reach into the bushes and to each branch without getting the hands all full of briars. I hope that before long somebody will give us a thornless gooseberry-bush that is otherwise as good as the Columbus. Thus far the thornless kinds do not seem to amount to much. Cherries sold fairly well. I have just marketed a lot of green apples (so green, indeed, that the stomach-ache is yet all inside of them) at from twenty to twenty-five cents a peach basket (one third of a bushel). The apple market promises to remain quite stiff for the whole season, and we may make more money from the partial crop we have than we possibly could make from a full crop. The same holds good of pears. Plums we have none here this year, with the exception of German prunes, which promise a full crop.

T. GREINER.

FRUIT NOTES.

After going through my strawberry-bed and carefully taking notes I found myself settling down to the following list, as, on the whole, thoroughly satisfactory, if not the best in cultivation. I would arrange them in the following order to secure a succession of good fruit for the table as well as for market. First of all, Ivanhoe, which should be followed in order by Clyde, William Belt, Marshall, Brandywine and Margaret, and last of all, Michigan. This list includes no sour berries and none that should be classed as inferior in quality. Clyde is the only one in the list which should be classed as even second in quality. But Clyde is such a remarkable berry for quantity and size and general attractiveness and fine growth that it should go into any list of select berries. This list should exclude several which are popular as market berries. And I am sorry to say I am compelled to reject Mary, Bismarck and Isabella, as well as many other overpraised sorts.

It is a fact which presses upon me, after having planted most of the new varieties of plums, that among all of them there are none to surpass a few of the very old sorts. Take a list of the old English plums, including Green Gage, Bavay's Green Gage, Coe's Golden Drop, Magnum Bonum and Pond's Seedling, and it would be difficult to name another list to surpass it. Of the newer plums, I like exceedingly well Grand Duke, Victoria, Geuli and some of the prunes. I do not find anything among the natives to displace these in my grounds.

If any one wishes to plant a single tree for shade on a small lawn that will be unique for its absolute erectness, very large leaves and rich foliage, try Magnolia acuminata. This tree rises to about fifty feet, forming a complete pyramid, and the body of the tree is as erect as a rifle-shot. The foliage is not so large as the leaves of tripetala, neither are the blossoms, which are large and yellow, of much value. They fall almost as quickly as they expand. But the tree is without a disease, and I know of no insect foes that attack it. For some places I should not choose it, preferring a more easy-growing and graceful tree. But

for such a place as I have specified it is unequalled.

Eighteen hundred and ninety-eight will be remembered in our vineyards for the peculiar effect of a cold April following a warm March. The result was that the normal bud was started and then checked so severely that in all the joints of the vine two, three, four or more dormant buds got started, and instead of a fine growth there was a bunch of useless shoots. Those who grow vines should in all such cases pinch out all superfluous buds and reduce the growth to a few of the best canes. The same rule should be rigidly followed with all vegetation that starts in this unnatural manner.

We are still in need of two or three things in our fruit-yards which must be sought after. First, we need a thoroughly hardy and thoroughly good red raspberry. Cuthbert was so greatly in advance of all other sorts that it has been generally planted with satisfaction; still, it often winter-kills, and in some cases is subject to rust. Golden Queen, a sprout of Cuthbert, is more hardy than its parent. But the berry is not as acceptable in market. Its flavor is also entirely unlike the Cuthbert. We have several purple berries which are of fine quality, but none of them go well in market. Loudon has rusted with me, and I am afraid that it will not fill the bill. I have many seedlings, and not a few of them are entirely hardy and full of promise. But not one of them seems to me as yet to fill the demand for a perfect, all-around, first-class red raspberry—hardy, bright red, high-flavored and prolific.

The effects of the war with Spain will be very far-reaching and very unexpected. It seems probable that in no direction will the consequences be more momentous than in their relation to agriculture. We shall not only end the war in possession of Hawaii and Philippine islands, but the reaction upon Spain and Europe will be enormous. It is not improbable that Spain will be delivered from the incubus of its ruling caste and the people roused to express themselves in forms of industry similar to those in the United States. It is a mistake to suppose that the Latin races are effete. The trouble is that they have been smothered under effete institutions. But this may be set down as sure: that no branch of industry will be more advanced by the widening out of American sympathies and purposes than agriculture.

The drought problem ought to be attacked and settled. It is the disgrace of agriculture that we are still almost entirely at the mercy of the appearance or non-appearance of timely rains. No nation ever went ahead for three hundred years without devising a scheme for thorough irrigation. Our eastern states need irrigation almost as much as the arid states of the West. Have we reached a point where we submit that we can go no further and are to be the victims of the season and the climate? I do not believe anything of the kind.

Birds show good taste in selecting fruit. As a rule, we expect them to take those that are high-colored. But this summer I found them passing by all the red currants and greedily devouring those of the White Grape variety. Among the cherries the robins know a Governor Wood and a Black Tartarian every time. By the way, if you wish to know what a real Morello or Montmorency cherry can be, cover the tree with mosquito-netting, and let them hang until they begin to rot and shrivel. If the season is not very rainy you will have them in good eating until the latter part of August.

The relative value of raspberries could be easily settled if we could induce buyers to purchase the very best varieties. But this they will not do. The demand is almost universally for the bright red. Really the best raspberry for canning and for general purposes that I have ever grown is Shaffer's Colossal. This berry withstands drought. While it kills back in winter, it never fails to give a first-rate crop. The berry is large, easily picked, and is almost as good a shipper as Cuthbert. I am not yet satisfied that Loudon can displace Cuthbert.

If your jelly does not turn out well, lay it to the currants. I received a letter this summer from an irate housekeeper, who declared that my currants were watery, and announced that her jelly was a failure. Watering currants is a new trick, which should be promptly stopped by legislative enactment. The fact is, currants will make good jelly at any season, if the housekeeper understands her business and is attentive. The best jelly currant is the White Dutch. But as that is too small to be grown profitably, try the White Grape. This is the best currant for any and all purposes. It is the most delicious for the table, while in size it is nearly as large as La Versailles and Fay. In comparison, the reds are all inferior. I recommend for garden planting these two varieties, White Grape and La Versailles; or if you prefer, Fay.

E. P. POWELL.

THE PEAR-LEAF BLISTER.

The orchardist is often at a loss to account for the blister-like spots or galls that appear upon pear-leaves before they are fully expanded, and also the brown or black, dry, corky ones that are observed in July. These are merely different stages of the same malady, a stage in which the spots turn green having intervened and rendered them less conspicuous. The disease is caused by a mite, and not, as is popularly supposed, by a fungus. It is therefore useless to treat it as is often done with Bordeaux mixture or with Paris green.

These mites, which are closely related to the red spider, the itch-mite and the cattle-tick of the South, are so small that even when full grown they are almost invisible to the naked eye, one hundred and fifty of them laid end to end, and six hundred laid side by side, occupying the space of only one inch.

The young mites are hatched from eggs laid in the spring or during the summer by the females of the colony, for such the gall becomes. When the quarters become overcrowded, when the leaves dry up or the food becomes scarce, or from some other cause there is a migration through the opening left in the center of the gall, a new feeding-ground is searched for. This is always some healthy part of a leaf, or rarely a green growing stem. The tissues are burrowed into and new galls soon appear. When the leaves become dry in the autumn there is a general migration to the winter buds, between the scales of which the little creatures work their way. The buds near the ends of the twigs seem to be preferred by the mites probably because of the better chances of these buds swelling when growth starts in the spring. Here they often start the work of producing new galls even before the leaves unroll in the growing season.

The leaves of infested trees drop off much sooner than those of healthy subjects, and the trees thus deprived of their breathing organs are unable to assimilate and store food in their winter buds as well as unaffected trees. They thus enter the winter and commence growth in the spring in a much weaker condition than the healthy trees. Therefore, the cleaner the leaves of a tree can be kept during the growing season of one year the more vigorous will be the tree and the better will be the chance of obtaining a good quality of fruit and a larger quantity of it.

In fighting this pest little can be done during the growing season. Applications of insecticides prove ineffectual, as might be supposed, from the fact that the mites are within the tissues of the leaf and are in no way exposed. Picking the leaves and pruning the branches are, of course, effective if both pickings and prunings are hurried. But the former is too laborious, and the latter may be necessarily wasteful of bearing wood. The most favorable time to attack the mites is in the late fall, during the winter, or in the early spring before the buds have commenced to swell. The best and most effective remedy is standard kerosene emulsion diluted with from five to seven parts of water. If thoroughly applied, a single application will be found sufficient. This treatment will, at the same time, destroy any of the pear-psylla that may be reached in their hiding-places under the loose bark. For this reason it will be well to spray the whole tree.

The damage done by this pest seems to be increasing, and it would be well to examine and mark any trees that are found to be affected while the galls may be readily seen, because when the winter comes the infested trees cannot be distinguished from the healthy ones.

M. G. KAINS.

Our Farm.

RURAL NOTES.

MUCH as has been said about the waste of manures, I am satisfied that not less than two thirds of all available fertilizing material in the United States goes to waste. Our barn-yard manures are very seldom applied to the best advantage. The nitrogen escapes, and the result is merely an addition to the humus of the soil. The compost pile should take in not only the ordinary waste material, such as weeds, leaves, lime, ashes, road dirt, sweepings and the cess-pool discharges, but with all this should be composted barn-yard manure. I am not sure but we shall yet come to the Chinese method of applying all manures in the liquid form, adding the indissoluble substances to the humus after the fertilizing material has been withdrawn.

The fads in fruits and flowers are not to be laughed at. They may not largely increase our food products, or even our list of floral treasures; but they educate the people and sharpen wits. We have repeatedly laughed at the Dutch for their tulip craze; but are we sure that such episodes have not gone to make a very good quality of Dutch character? I have personally no fondness for chrysanthemums, but I have friends who have been nearly made over by chrysanthemum culture. One who has gone to the head of chrysanthemum-growers was poor and not over interesting. He is now rich, and has a topic that he can talk about enthusiastically and wisely. The collateral arts of cross-breeding and pollenization are also developed by these fads, and the people are set to the improvement of all sorts of garden stock. What shall be the hobby of 1899?

However, there should be a limit to the chase after the latest fine things. I had a neighbor in Michigan who was a man of real brains and culture; but he would graft over his whole orchard to a new and promising pear. By the time the grafts had begun to bear, another novelty of high order would appear, when he forthwith sawed out all his stock and put in the new claimant. The man never had a crop of anything. Seckels chased out Bloodgoods, and were themselves chased out by Sheldons; while the latter had also to give way to Clairgeaus. Experiment stations are one thing, a good home orchard with room for progress is another. "Go ahead slowly."

E. P. POWELL.

SUBIRRIGATION FROM WELLS.

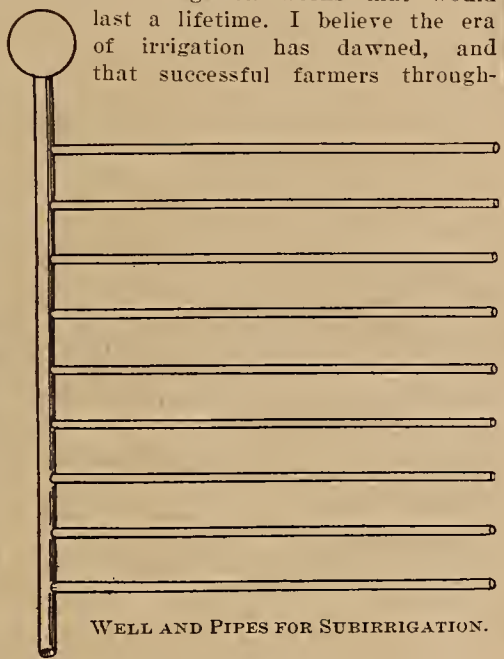
Several eastern readers of FARM AND FIRESIDE have tried surface-irrigation, and while highly pleased with results, are anxious to learn something more about the Western systems of subirrigation. Some have written asking how to manage wells without reservoirs, while others desire a plan for some permanent underground works that will not require continual making and cleaning of ditches every season. Subirrigation is probably the most satisfactory method of supplying water to orchards, gardens and vineyards, but it is more expensive at the beginning than any other system. Many experiments have been made and numerous successful subirrigation plants constructed chiefly by gardeners and small-fruit growers, to whom land is more valuable than to the general mixed farm owners practising irrigation.

The usual subirrigation system consists of waterways made about twenty inches below the surface and fed from open ditches or flumes, carrying the water from the main canal to the land. Some parties have been very successful in digging trenches about three feet deep and partly filling with loose stone, brush or logs, and I have seen corn-stalks used with perfect satisfaction. The trenches may be filled with this material to within a foot of the surface, then covered with soil. Trenches should be dug every twenty, fifty or one hundred feet, varying with the porosity of the soil. The water is turned in from a source higher than the field to be irrigated, and the trenches filled, while regular channels are cut through the debris by natural percolations. This system never demands attention after once completed, and acts as a drainage for surplus surface water caused from too much rain. The moisture

for growing crops comes from below and does not reach the surface. This method is superior for trees, vines and general root crops.

Some of the "plains" farmers have adopted a tiling system that works perfectly and does away with the necessity for a reservoir and disagreeableness of surface-irrigation. The pipes are filled from wells, water being raised by windmills, and become the reservoirs for storing the surplus water of summer and winter. One main pipe is laid from the well at a depth of about two feet, so the top will be below the plow-point, and laterals tap this at intervals along the line. The main pipe may be eight, ten or twelve inches, with the smaller ones ranging from two inches up, according to the size of land, nature of soil and water supply. Plant-life demands moisture, but not water, at the roots, and this system distributes the requisite food from the joints, holes cut in the pipes, and the natural percolation of the tiling. A well forms the source of supply; wind, horse or steam power lifts the water to the surface, and the principle of gravity by which the pipes are laid diffuses the moisture.

The distance apart pipes must be laid depends upon the nature of the soil, volume of water and fall of land. In some instances pipes may be laid every twenty feet, while in others one line to each row of fruit-trees or vines is sufficient. The tiling is not expensive when one considers the permanent benefits to be derived from a thorough subirrigation system. One season of drought in the rain belt robs the truck-farmer, small-fruit grower and specialist of enough to construct expensive irrigation works that would last a lifetime. I believe the era of irrigation has dawned, and that successful farmers through-



out every state will soon adopt some method of scientifically applying moisture to growing crops during the months of drought. Subirrigation, even though an apparent costly experiment, is certainly the cheapest and best plan for continuous drought resistance in subhumid countries.

JOEL SHOMAKER.

TO HAVE A DRY CELLAR.

It is often a matter of surprise to the householder that his cellar is damp in the summer-time when everything outside is suffering from lack of water. He rightly concludes that the trouble is not one of drainage, because at that season there is no excess water in the soil, and yet in some instances the moisture on the walls is so abundant that it trickles to the floor, where it forms in little pools. In the great majority of cases this dampness is due to a condensation of moisture from the air, which is freely admitted from outside. This is taken because, being warm, it is hoped that it will dry out the cellar. But this is where the mistake occurs, as will be seen from what follows.

The capacity of the air to hold water increases as the temperature rises, and diminishes as it falls. When the temperature falls to such an extent that the air cannot hold the moisture it did at first, dew is deposited. The same thing takes place when a pitcher of cold water is brought in contact with warm air. This is due to the chilling of the air around the pitcher to such an extent that its moisture is left on the pitcher.

Cellars are usually cool places in summer; first, because they are below the surface of the ground, and second, because being inclosed they receive but little of the direct heat of the sun. Now, if warm air be admitted, it will become chilled, the water vapor it may contain will be con-

densed and the cellar will become damp. More than that, it will become much warmer because the admitted air is warmer, and because in the condensation of the moisture latent heat is evolved. The term latent heat is applied to the amount of heat required to convert a liquid into a vapor, and which is given up when the vapor is reconverted into a liquid. When the vapor is condensed this heat is liberated, and thus raises the temperature of the surrounding air. In the case of water, the amount of heat thus liberated is very great. It is therefore apparent that the admission of warm air into a cool cellar is a twofold mistake; it makes the cellar not only damp, but warm.

From what has been said, the following method of keeping cellars cool and dry can easily be understood. During the day keep all doors and windows closed, to prevent the admission of the warm air. In the evening, when the temperature of the outside air has fallen, and the dew has been deposited, open them, leaving them thus during the night and closing them again in the morning. The outside evening air, having deposited its moisture as dew and being warmer than the air and the walls of the cellar, will rob the latter of their moisture, at the same time cooling them by the absorption of the heat required to evaporate this moisture.

This method is much more satisfactory than the applications of salt, lime and other absorbents, which soon absorb as much water as they can hold and are then useless. It is practised in my own house with the result that not only is the cellar much drier than that of any of my neighbors, but the rooms above are drier. We have no moldy bread in our pantry, while many of our friends complain that the bread spoils in their cupboards.

M. G. KAINS.

CORRESPONDENCE.

FROM TEXAS.—As this colony is made up entirely of Northern people, and many of us are old patrons and friends of FARM AND FIRESIDE, I have been requested by several to write a short letter for the paper. Many private letters have come to us from friends up North inquiring about the country, etc., and perhaps an item from here might be read with general interest if published. Here, as elsewhere, humanity is beset with some drawbacks. Seemingly, the greatest recommendation here is the cheap, fertile lands and the climate. This colony numbers some 2,000 souls, and we have a town of 500 inhabitants. The first settlers came here a little over two years ago. We paid from \$7.50 to \$10 an acre for our lands in farm tracts. Corn this year will average from twenty-five to fifty bushels, and cotton one half to one bale an acre. Oats do well here. We find that many varieties of tame grasses do well. Water is obtained from wells at a depth of forty to sixty feet, and while not as cool as the Northern well-water, it is quite wholesome. We have good health. We raise and are shipping melons and vegetables by the car-load. Rock island is situated on the S. A. & O. P. railroad, seventy-seven miles west of Houston. This is an undulating prairie country, with timber on three sides within three to five miles. Game, such as deer, turkey, prairie-chickens, quail, plover, squirrel, etc., is plentiful, and fishing is good in the river. We have no winter here to speak of. T. J. S. Rock Island, Colorado county, Texas.

FROM NEW YORK.—The climate here is always very healthful. Many are the crops that can be successfully grown. Dairy and hog-raising, however, are the leading industries, and up to the present time the latter has brought the farmer a great deal of money. But the vine this season is not looking well; too much cold, wet windy weather in May and June, followed by a severe drought, is the cause. For the same reason potatoes, corn, oats, buckwheat, and the like, as well as berries of various kinds, are more or less off. Fruit, such as apples, plums and pears, bids fair on the average to be a light crop. Well-tilled gardens look fairly well. The hay crop was abundant and of admirable quality. It brings, however, only \$3 a ton. Butter commands about fourteen cents in trade, and poultry products are proportionately low. As to land, it is too cheap to bear mention. Good farms are and can be purchased for less money than was required to stock them, with their fences and buildings. Rare, indeed, are the cases where "let" land nets the owner any profit if he makes all repairs. Since 1830, when this county's prosperity reached its height, it has been gradually going back, and many lay it all to the Erie canal, which brings in western produce so cheaply we cannot compete with it. F. O. S. Cooperstown, Otsego county, N. Y.

FROM KENTUCKY.—Carlisle county, situated on the "Father of Waters," and through which run two great railroads, can boast of

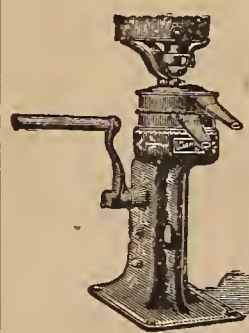
a greater variety of products than any other county in any state. Thousands of car-loads of cattle, hogs, corn, tobacco and wheat, with fruits, berries and vegetables of all kinds, are produced here in abundance. For quality and situation, the land is cheaper than can be found anywhere else, ranging from \$5 to \$50 an acre. Land has increased ten per cent in value in the last two years, and the rate will be increased in the next five years. For health, churches and schools the county is unexcelled. In temperance it surpasses all others, as there is not now and never has been a saloon in it. R. H. W. Bardwell, Ky.

FROM ILLINOIS.—Old Hardin county is still on top. We can raise plenty of everything here to live on. Health is always good. We have good schools and churches. There are no extremes of heat and cold. We raise corn, wheat, oats, hay, potatoes, hogs, cattle, etc. A variety of things makes life happy. We have plenty of wood, hill and valley land, selling for from \$5 to \$50 an acre. We have no railroad, the Ohio river furnishing transportation. T. F. M. Lamh, Ill.

FROM ALABAMA.—We have planted over seventy thousand peach-trees here at Fruitdale. The yield this season from our three-year-old trees is much larger than expected. During next season probably forty thousand trees will come into bearing. Enough more trees will be planted out next winter to swell the grand total of our orchards to over one hundred thousand. W. P. S. Fruitdale, Ala.

The E. W. Ross Co., of Springfield, Ohio, are putting out several sizes of their improved cutters that have become great favorites among the most successful and intelligent farmers because of being equally well adapted to cutting green fodder for the silo or dry fodder. These cutters vary in capacity from four tons to thirty tons an hour, and may be run either by hand, horse or engine power. They are made extra strong. You should send for the circular issued by this company.

Kill Competition.



The way to kill competition is to make a better article than the other fellow. Common butter has lots of competition. First-class butter has little competition. The dairyman who uses a

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takes out all the butter fat and makes butter that is beyond competition.

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that can come to any Stock raising or Dairy Farmer is to ignore "Up to Date" methods in stock feeding. Probably no company in this country has advocated such methods so long and persistently as the Smalley Mfg. Co. of Manitowish, Wis. Their 1898 Silo literature, which they entitle "Smalley's Stock Feeder's Guide," is now ready for distribution, and will be mailed free if you name this paper. Also, catalogues and price lists of the largest and most complete line of Silo Machinery

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De Laval "Alpha" and "Baby" Separators First—Best—Cheapest. All Styles—Sizes.

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FOR SALE AT SACRIFICE

New threshing-machine, 36x56, three-section stacker, self feeder and band cutter, steam or horse power, built by Stevens & Son, Auburn, N. Y. Factory price \$700. Will be sold for \$450 cash f.o.b. Apalachin, N. Y. Also new Adrian Reaper and Binder. Cost \$120; will sell for \$70 cash. J. C. & W. L. FARRELL, 51 Welles Bldg., Wilkes-Barre, Pa.

4 Buggy Wheels with Tire on - \$5.60 With Axles Boxes Set, - 8.00 I make all sizes and grades. Carriage and wagon hardware of every description. Catalogue free. W. M. B. BOOB, Center Hall, Pa.

"1847" Rogers' Knives, Forks, etc., at wholesale. Also Watches, Clocks, Jewelry, etc. Send for catalogue. Whitney, Cooke & Co., Chicago, Ill.

FRUIT EVAPORATORS. Best and cheapest. D. STUTZMAN, Ligonier, Ind.

Our Farm.

FEEDING SKIM-MILK TO GROWING CHICKENS.

At this season of the year young chickens and skim-milk are more abundant on our American farms than at any other time. In view of this fact it would be well if more people growing chickens would feed them some of this milk.

Skim-milk is a food which contains muscle and flesh forming material in a form to be readily taken up and digested by the system. Milk that has been skimmed has really, lost but a small amount of its value as a food, the cream consisting of considerable fat, which in itself is the least nutritious part of the milk. The cheesy matter left in the milk is its most valuable part for food, and tends to produce a vigorous, healthful growth, when fed to calves, pigs and chickens. If more American pigs and chickens were fed less corn and more skim-milk it would not only be to their lasting benefit, but it would also eventually result in financial benefit to the farmer.

With the purpose of studying the effect of a skim-milk diet on young, growing chickens, an experiment was conducted at the Indiana agricultural experiment station, in which two lots of chickens were under observation. There were ten chickens of two breeds in each lot, ranging from four to six weeks of age, at the beginning of the experiment. Each lot received the same food, care and treatment, excepting that one was fed all the skim-milk wanted, while the other was given none. The grain fed consisted of two parts crushed corn, one part bran and one part ground oats. They were also fed cracked bone, cabbage and lettuce. When the experiment began, the total weight of one lot of chickens was only one half ounce more than the other. The experiment lasted from July 11th to September 5th.

The results of the feeding show that the chickens fed milk and grain ate some considerable more grain than did those receiving no milk. The results also show that the chickens of lot one, receiving no milk, made an average weekly gain of 2.62 ounces, while those fed milk made a gain each week of 4.46 ounces, or over one fourth of a pound. The chickens fed milk made a more rapid and uniform gain than those fed grain only. The general results of the feeding in every way seemed to show the superior influence of the skim-milk on the growth of the birds.

These chickens were raised on the station grounds, were uniform in character, and kept under good conditions under confinement, so that no food was available, excepting such as was given by Mr. Anderson, who conducted the experiment.

It would be well if our poultry-growers would place plenty of skim-milk available to the chickens. If the vessel containing the milk was thoroughly scalded daily to keep the sanitary conditions good, the feeding of the milk would unquestionably result in profit.

Further information on the subject will be forthcoming in Bulletin No. 71 of this station, which will be mailed to all persons on the station mailing-list, as well as to other applicants while the supply lasts.—C. S. Plumb, Director Purdue University Agricultural Experiment Station.

HOME-SEEKERS' EXCURSIONS.

On the first and third Tuesdays in July, August, September and October, 1898, the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets (good 21 days) from Chicago, Milwaukee and other points on its line, to a great many points in South and North Dakota and other western and southwestern states at about one fare. Take a trip west and see the wonderful crops and what an amount of good land can be purchased for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained on application to any coupon ticket agent or by addressing the following-named persons: W. E. Powell, Gen'l Immigration Agent, 419 Old Colony Bldg., Chicago; H. F. Hunter, Immigration Agent for South Dakota, 291 Dearborn Street, Chicago, or Geo. H. Headford, Gen'l Passenger Agent, Chicago, Illinois.

"My business of selling Peerless Atlas and 'American Women' is running nicely," is the pleasant word from Mr. J. P. Cowman, Humphrey, Neb. "I like it, and shall devote my whole time to it from now on." One of our Nebraska workers has sold and delivered very nearly 4,000 Atlases the past year.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hammononton, New Jersey.

INCUBATORS IN SUMMER.

Summer is the proper time to begin with incubators. Practise first, and then get ready for winter. To wait until the late fall and then aim to hatch for market is unwise, owing to the losses that may occur should a failure result. The first hatch is everything, if the work begins late, but if done now, while eggs are cheap, any failure resulting will not injure the market chances. Then, again, it is easier to raise the chicks in the summer, and practice with a brooder will be beneficial. To point out the fact that there is but little time ahead, bear in mind that this is close to September. By the time the incubator arrives and the chicks come out October will have arrived, and yet only one hatch will have been made. The next brood will not be out until November, at which time it will be none too soon to begin the hatching of chicks for market, and the chicks in the brooder will have warm days and cool nights against which to contend. The mistake made by beginners heretofore is that they begin hatching with incubators too late in the season, and do not give themselves time to learn anything about the business. They procure their incubators when ready to hatch, and take the risk of good or bad results. There is another point, which is, that to fail with the first hatch after the time arrives to bring out chicks for market is to get behind the prices; that is, if prices are high the chicks must reach the market in time to secure them; but if three weeks are lost because the first hatch fails, the lost time cannot be regained, and prices will be going down as the later chicks come on. Instead of getting ahead of the prices, one is following behind and cannot overtake them. For that reason I advise all who are interested to begin now, for should failure occur with the experimental hatch, the operator will not only be more experienced, but will also be in a position to be up with the markets.

LOSS OF EGGS—MOLTING.

A great many of the hens will soon begin to fall off in the number of eggs laid; but such happens every year, and happens because the hens cannot lay eggs and produce new feathers at the same time. This annual throwing off of the old feathers and putting on of new plumage is known as "molting." As animals shed their coats and nature provides for a renewal of the covering of many animals, birds, fishes, reptiles and insects, we find the same thing in the poultry-yard. The old feathers begin to drop out and new ones commence to grow. This process requires about three months, and as molting debilitates the fowl by causing a great drain on the system, egg-production ceases. The hens that begin to molt early should be retained, as they will be the ones that will finish the process before winter and be ready for laying by the time eggs go up in price again; hence, never sell the ones that begin to molt early, as they will be your winter layers, but feed them bone, meat, linseed-meal and a variety, not overlooking a little sulphur in the food occasionally.

LEG WEAKNESS OF CHICKS.

There are different kinds and causes of leg weakness. When chicks have good appetites, have no bowel trouble and strive to get their food eagerly, moving on their knees, however, it indicates rapid growth. Such chicks usually have long legs, the cockerels being mostly affected, and they will soon improve and make the best chicks in the lot; but at times the pullets are affected also. When chicks stagger, their vents being clogged, their feathers rough, and the chicks do not grow, but gradually weaken and die, it is from lack of heat at night in the brooders. When they appear to have rheumatism, eat, but are not lively, and stagger, at times being apparently well, it is due to sulphur, which is given in some of the condition powders. Such chicks show the effects of the rheumatism principally in damp weather. When chicks of all kinds are lame, have no bowel trouble, but are lively, the floor of the brooder is too warm. When they feather rapidly and are weak, they want plenty of heat and plenty of rich, nourishing food, the feathering being a drain on them. Meat, milk and bone should then be given.

LOSS OF LATE CHICKS.

It is believed by those who have not sought for the cause that early hatched chicks are much more easily raised than those hatched out late. It may be said that the late chicks do not grow, but seem to remain at about the same stage for months. The reason is that the early chicks receive more care. They are hatched at a time when they must be protected from the cold, and care must be given them from necessity. They are also less liable to lice—both the large head lice and the little mites—and thus get a good start before the fine weather begins. It is well known that when any kind of young stock is favored in the early stages of growth they hold this advantage until maturity comes; but any check received at the beginning will make its influence felt throughout the future existence of the animals or birds. There is a great loss of the early hatched chicks when they are neglected, and a comparison of this loss with that occurring among the late chicks may change the apparent disadvantages of the latter.

PROFIT AND NUMBERS.

The profit does not depend on the number of hens, but on the manner in which the hens are kept. It often happens that the larger the number the smaller the profit, due to the endeavor to get too much out of little space. It is an old rule that one hundred hens should be kept on one acre of land, but this applies to a range. The keeping of one hundred hens in a single flock has never given satisfactory results. So large a number together becomes a crowd. They are in each other's way and entail a great struggle for existence. It is the competition of a community, the stronger oppressing the weak, and the whole gradually becomes unprofitable. It is doubtful if one can go out among a lot of one hundred hens and feed them in a manner so that all will secure a fair share. If any one wishes to try an experiment, let him take a supply of feed and attempt to place it before one hundred hens so that each will secure a fair portion, none more than their share and none less. The attempt will be a failure every time.

REDUCING EXPENSES.

Where the fowls can run at large a greater part of the year they will find myriads of worms, grubs, etc., as well as weed-seeds, and devour great quantities of young, tender grass or other green materials, all promotive of health and thriftiness. This reduces the expenses for food considerably. But even where the fowls cannot be allowed to run at large, a limited number may be kept with good profit, if cleanly kept, well sheltered against rousp and wet weather, rationally fed (avoiding overfeeding if egg-production be the object), with a variety of substances suitable to their nature, appetite and omnivorous character, and are allowed plenty of opportunity for exercise, for which purpose, in the summer, some of them may be turned on a run every day, provided a little grain or a variety of small seeds be raked in for them to scratch; in the winter, when the ground is frozen or wet, a feed of grain may be strewn over a heap of straw in a dry, sheltered and, if possible, sunny spot, to induce the fowls to work.

DISTINGUISHING SEX IN YOUNG BIRDS.

It is very difficult to distinguish turkeys when they are young. For a long time the males and females are alike, but gradually the male becomes more carunculated on the head and neck, the "tassel" on the breast begins to appear on the male, and its wings will occasionally be opened and tipped to the ground, as in "strutting," even when it is apparently but a chick. Later on the neck is thicker and the carriage is more erect, until the difference is plain, as when maturity has been reached. The drake can always be distinguished from the female by its voice, and the same with the gander. The female duck is the noisy one, and makes the loud, harsh sound, while the drake has a fine, sharp voice. The same with the gander compared with the goose.

QUALITY IN TABLE FOWLS.

The table fowls should have small bones, a thin skin, juicy flesh, as little offal as possible, and should be well-flavored when roasted or stewed. The breast meat is

composed of the muscles which give power to the wings; hence, the birds that fly over high fences and cause so much annoyance have more meat on the breast than those which are easily confined by a low fence. Meat on the breast also indicates that the frame is covered as a whole with lean and fat intermingled, while the bird of sedentary habits, when very fat, is often unfit for the table, being deficient in lean meat.

POTATOES AND CARROTS.

Potatoes make excellent food for fowls because they are a change from grain; but cooked carrots and beets are also excellent. A crop of carrots stored in bins, the spaces between the carrots being filled with oats, can thus be kept in a manner to permit of using them at any time, and as a mess of carrots and bran will be highly relished by all kinds of poultry, they should be made a special portion of the diet. They will not only improve laying, but also deepen the color of the yolks as well as prove a cheap food.

INQUIRIES ANSWERED.

Lice.—M. E., Columblana, Ohio, writes: "My chicks droop, are sometimes giddy, and often appear sleepy. Some of them have died."

REPLY:—It is caused by the large lice on head and neck. Anoint with a few drops of melted lard.

Crossing.—L. B. L., Ottawa, Ill., writes: "I have some Buff Cochins and wish to make a cross on them next year. Which of the breeds should I select?"

REPLY:—Crossing is of no advantage, as it destroys the breeds; but if you are determined to cross them, select males of the Buff Leghorn breed for the Buff Cochins.

Loss of Young Turkeys.—A. M. R., Berea, Ohio, writes: "I have a lot of late-hatched young turkeys that are about three months old, and they are nearly all lame. What is the cause, and remedy?"

REPLY:—It is due to the young turkeys jumping from a high roost every morning. It is probable that they roost on a high limb.

White Feathers on Black Breeds.—F. D. R., Haddonville, N. J., writes: "I procured eggs of Langshans from a breeder, and some of the chicks are partly white. Are they pure-bred?"

REPLY:—The chicks of all black breeds have considerable white on them when hatched, but as the chicks approach maturity the white disappears and they become entirely black.

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Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Wild Oats.—S. S. B., Medo, Minn., writes: "How can I handle a piece of land that is full of wild oats so that I can kill the oats?"

REPLY:—Thorough cultivation in crops, like corn, that require summer cultivation. Or, plow now, seed to wheat this fall, and sow clover next spring. Clover is one of the best crops for smothering out weeds.

Time to Cut Timber.—J. C. H., Watonga, Okla. Opinions differ as to the best time to cut timber. Some advocate midwinter; others late summer. The only principle to be observed is that the least sap the tree contains the better the timber, as less fermentation takes place while it is seasoning. Broadly speaking, cut timber after the return flow of sap takes place from tree to roots in summer and before it commences to rise in late winter.

Crimson Clover.—B. P., Kirhyton, Ky., writes: "Tell us something about crimson clover; when and how to seed, and its value as a nitrogen gatherer. Is it adapted to our climate in Western Kentucky?"

REPLY:—Prepare the land now as for oats. Sow in August or September fifteen pounds of seed to the acre. Like all leguminous plants, it is an excellent nitrogen gatherer. It is well adapted to your climate. In your latitude it will bloom in April, and can be turned under for a crop of corn. Use it for a land renovator rather than for hay.

Beans as Fertilizer.—Cheat.—R. H. W., Bardwell, Ky., writes: "Do beans fertilize land like clover or peas?—Has it been definitely settled whether wheat produces cheat or not?"

REPLY:—Yes. The fertility of land may be increased by growing any one of the legumes. All are nitrogen collectors.—Yes. It has been positively settled that wheat does not produce cheat. In works on botany wheat and cheat are classified as two distinct plants, neither one producing the other.

Old Straw.—J. C. H., Jefferson, Pa., writes: "Does it pay to plow under old straw or oat stubble for wheat?"

REPLY:—Yes. Generally it pays to plow under old straw. It increases the supply of humus in the soil, increases its fertility and improves its mechanical condition. Spread the straw evenly, and not too thick. Use a plow with a good jointer, which will place the straw in the bottom of the furrows, and cover it completely. Roll and harrow the plowed land until you form a fine, firm seed-bed for the wheat. It would be better to burn the straw on the land than to sell it for what farmers usually get from straw-board factories.

Sex of Watermelons.—L. B. E., Mascoutah, Ill., writes: "Are there male and female watermelons? How can you distinguish one from the other? Is the seed of one more prolific than of the other?"

REPLY:—There is no sex in melons. The notion of male and female melons probably had its origin in the fact that the vines of melons, cucumbers, squashes, etc., bear both male and female flowers. After the female flower receives pollen from a male flower the fruit—melon, cucumber, gourd, etc.—forms from the enlargement of the stem at the base of the female flower. The male flowers drop off the vine soon after the pollen is ripened. Examine carefully the flowers on a blooming vine, and you can distinguish the two kinds.

Canning Corn, Green Peas, String-beans and Tomatoes.—In reply to C. J. Mc-L., Streeter, Ala., I. E. W., Coquille, Oregon, and others, we republish the following from one of our contributors: "Pick the corn when right for table use, cut from the cob, and fill glass cans, jamming it down until the milk comes out and you cannot get any more corn in the can. Put on the rubber, and screw on the cover as tightly as possible. Place in a boiler of cold water, with a board under and a weight over to keep them in place, and boil three hours. Set off the stove and let the cans cool, being careful not to leave them in a draft, or the cans may crack. As soon as you can, tighten the covers. Set the cans in a dark, cool place. Shell peas, fill the can, and then fill with cold water until the peas are covered. Put on rubbers and covers, and cook two hours in a boiler, the same way as the corn. Cut or break string-beans as you do for the table, fill the cans, cover with water, and cook two hours, the same as peas. Tomatoes can be canned whole or cooked. To can whole, peel, and put into the can whole or cut in two crosswise, fill with water, and cook one hour, the same as peas and beans. Or peel and cook the tomatoes same as for the table, fill the cans while hot, and put on the rubbers and covers. I have tried both ways, and they have kept without any trouble. I have used all of these recipes, and know the vegetables will keep if directions are followed."

VETERINARY.

Conducted by Dr. H. J. Detmers.

To regular subscribers of FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered under any circumstances.

Removing a Wart from a Cow's Teat.—A. W. D., Taunton, Mass. You might have removed such a comparatively small wart having a plainly developed neck with much less trouble by means of a tightly drawn ligature, and no "hole" at all would have been left.

Apoplexy.—A. J. Y., Shipshewana, Ind. Your shoats, it seems, died of apoplexy, probably caused by a hemorrhage in the brain or some other vital organ. Treatment in such a case is out of the question. The prevention consists in removing and avoiding anything calculated to produce congestion in the brain and other vital organs.

Repeated Attacks of Garget.—J. M. B., Columbus Junction, Iowa. Milk your cow oftener and in a more thorough manner, and the attacks of garget will cease to make their appearance. A good milk-cow, especially while fresh-milking or at the height of milk-production, must be milked oftener than twice a day.

Nothing Out of the Way.—K. E. T., Sabetha, Kansas. Such a swelling of the bag of a heifer heavy with calf is not uncommon and nothing about which you need to feel any alarm, but rather an indication that your heifer will make a good milk-cow. Allow her voluntary exercise and do not feed her too much voluminous or rough and sloppy food while she is in her present condition. It will be necessary only in very rare cases to milk such an animal before the calf is born.

Some Morbid Growth in the Respiratory Passage.—M. R., Bartlett, Ohio. The difficult breathing, choking and bleeding from the nose, etc., of your cow are undoubtedly caused by the presence of a morbid growth in the respiratory passage of the same. The exact seat and the nature of the morbid growth can be ascertained only by a careful examination made by a competent veterinarian, and not from your description. Whether the growth or tumor can be successfully removed or not depends upon its accessibility and its nature.

Paralytic.—P. H., Somerdale, Ohio. Paralysis in hogs may be and is produced by various causes, as has been so often explained in these columns. In your special case it seems that the unsuitable diet of your sow, or in other words, keeping her on food containing certain necessary constituents, such as nitrogenous compounds, phosphates and lime salts in sufficient quantities. If you had fed bran instead of shorts, avoided sour slop, given her some hay or perhaps some animal food, and allowed her sufficient exercise, probably nothing would have happened. She was able to keep on her feet as long as she did not have to nurse a litter of pigs, but when she had to do that, the drain on her resources became too great, and she, not receiving a sufficiency of the elements of which her organism was drained or deprived, necessarily broke down. When this reaches you it will probably be too late to restore her to an approximately normal condition. If it is not, wean her pigs and provide her with such food, clover and bran, etc., in particular, as contains in sufficient quantities the wanting constituents of the animal organism.

Scurvy.—C. E. B., Bartow, Fla. Your dog evidently suffers from scurvy, a disease produced in consequence of a long-continued unsuitable diet. A thorough change of the same therefore constitutes the treatment. Fresh meat, and where it can be had, meat extract, vegetables, fruit not destitute of acid, lemon-juice and even wine have been recommended. The presence of the tapeworm in your dog has nothing to do with the disease, and simply shows that the dog must have consumed the carcass or parts of a carcass of a rabbit infested with the cysticercus (Cysticercus pisiformis) of one of the tapeworms of dogs, known as Taenia serrata. Of course, a tapeworm can be expelled, and scurvy, unless too far progressed, will yield to a rational treatment; but unless you are very much attached to your dog, I think it will be far more satisfactory to you to get a new dog than to undertake the treatment of the two ailments of this one. Concerning the tapeworm, you will find the desired information if you consult the answers given to W. E., Upper Lake, Cal., in FARM AND FIRESIDE of May 15th, and to W. H. J., Matanzas, Florida, in issue of June 15th.

Elephantiasis.—G. P. H., Fribley, Pa. The swelling of your horse's hind leg, first

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probably caused by an invasion of septic micro-organisms (bacteria) through small sores or lesions into the connective tissue and the lymphatics, where, in consequence, the morbid changes which you describe made their appearance. The swelling, existing since last winter, is now very likely firm and solid, and if such is the case, of a permanent character, constituting what is usually denominated "elephantiasis." Only so much of the swelling as will temporarily disappear if the horse is exercised can be permanently removed by exercising the animal every day, by bandaging the swelled leg every evening with a good bandage of woolen flannel, to be kept on over night, and by giving the swelled part every night and morning a good rubbing either with a woolen rag or with the bare hands. The swelling is firm and solid and of a permanent character simply because the exudates deposited in the connective tissue have become solid in consequence of the gradual absorption and removal of their fluid constituents and the firm union of the remaining solid constituents with the original tissues. Therefore, any "eradication" out of the system" by means of medicines or medication is out of the question.

Malignant Edema.—G. W. S., Manchester, N. Y. Malignant edema is an infectious disease, and is produced if the bacilli of malignant edema (Koch) or virions septiques (Pasteur) enter the connective tissues of the animal organism through existing wounds or sores. It manifests its presence by the appearance of an edematous, dough-like and painful swelling surrounding the place of infection; it spreads from center to circumference, is usually more or less flaccid and painless in the center and tense and painful in the periphery. If the hand is passed over the swelling a crepitating sound, in some cases at least, can be heard, and then the subcutaneous connective tissue and the adjoining muscular tissue contain a yellowish-colored and gelatinous infiltration and fetid gases. This infiltration is teeming with innumerable bacilli, which, however, are absent in the blood while the animal is yet alive. At a post-mortem examination pulmonary edema and more or less edematous swelling of the mucous membrane of the small intestines will be found, but spleen, liver and kidneys are intact. The fever, as a rule, is severe, and the disease often terminates in death within forty-eight or even twenty-four hours. If the invasion of the bacilli is only a slight one, the animal may recover without any treatment, and if the same is a mixed one, abscess-formation may result, and the propagation of the edema bacilli may thus be interfered with. The treatment is principally a surgical one, and consists in splitting the edematous swellings so as to admit an abundance of oxygen, which seems to be the best disinfectant against the edema bacilli. Besides this, proper drainage and a thorough disinfection of the subcutis are required.

"Money is very scarce here just now," writes Mrs. Alice Martin, Yoakum, Texas, "and people are all acting on the principle of 'a penny saved is a penny earned.' But none can withhold appreciation of the FARM AND FIRESIDE and WOMAN'S HOME COMPANION. The latter is so dainty and graceful all feel that in ordering it they are making the best possible investment of fifty cents, one that will bring returns fourfold. I have been taking subscriptions for another ladies' journal at a higher price, but find a great many prefer the WOMAN'S HOME COMPANION because of its crispness and bright freshness, while the difference in price arrests universal and always surprised attention."

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Our Fireside.

A FOGGY MORNING ON THE FARM.

The mist hung heavy on the barn, it looked a-kinder low'rin',
An' the fish above the ridge-pole said the day would sure be showerin'.
We'd hay down in the upper field, corn needed second hoein',
An' the new ground in pertaters into weeds and tops was growin'.

Uncle on the door-stone raised his hand up, silent, thinkin',
Fog fuzzy on his coat-sleeve, as it darkened, heart a-sinkin';
"Wind's to east'ard, Jake," he said to our man Jacob Gough;
Jake he turned an' twisted, said he thought it might burn off.

But uncle he thought different; still he didn't feel quite sartin,
He said, about that anction-grass he'd bought of Ezra Martin.
Barefooted, twelve years old, a boy, I earnestly was prayin'
A day had come, a day to rest two tired legs in hayin'.

I listened to them talkin', all the time in silence wishin';
An' at last I just suggested that 'twould be a good day for fishin'.
Two eyes above the door-stone, an' two above the path,
Looked down on me in scorn to see the subject of their wrath.

"Fishin'!" snarled out uncle, shakin' rain-drops from his collar.
"If ye live's old's Methuselah, ye'll not be wuth a dollar!
Work all behind, an' fishin'! Don't ye know there's hay a-spillin',
An' that ye got ter work, an' work, to keep the pot a-billin'?"

He turned from me to Jacob; as he did there came a sprinkle;
It pattered on my old straw hat and gave my eyes a twinkle.
But they lost some of their brightness, when uncle now said, "Well,
If 'tain't a day for hayin', I suppose there's corn to shell."

—James Riley.

AUNT BETTY'S DÉNOUEMENT

BY HATTIE WHITNEY.

WHATEVER is Aunt Betty about, that she doesn't come along with those cantaloupes?"

A small, vertical plait made its appearance just above Miss Arvilla Cobb's shapely nose as she stepped out upon the long porch outside her kitchen door, holding a smooth brown hand above her eyes.

The autumn air was languid and sweet, and the scent of ripened sunflowers floated all about. A murmur of mellow African voices reached Miss Arvilla from the direction of the neat white gate of the side yard, beyond which ran a rambling village street. Amidst the stalks of tall sunflowers Miss Arvilla caught a glimpse of a battered black "tie-back" hat veering gently from side to side or hobbling briskly back and forth in accord with its wearer's motions. A stocky figure in a big sunbonnet, holding onto a large market basket, leaned upon the fence from the other side.

"Dear me," murmured Miss Arvilla, "Aunt Betty'll stand there gossiping with that crony of hers until my melons all frizzle up to cinders, and I've got to get my mangoes made up to-day."

Raising her voice, she called, "Auntie!"
"Yes-um," responded a voice from the sunflowers; and without any undue haste, after bidding her crony good-morning, the comfortable figure under the tie-down hat came waddling through the tall stalks, carrying a large dish-pail of small, green cantaloupes partly under her arm and partly on one ample hip.

"Dese yere all de mushmellins dey was lef', Miss Villa," said she, setting the pan upon the kitchen table and wiping her glistening brow with her blue-checked apron.

"They're mighty little," commented Miss Arvilla. "I believe they're half pomegranates, Auntie."

"No'm, dey isn't," protested Aunt Betty; "dey's ever' one sbo' nuff mushmellins. De plumgrannles is all on de oddah side de truck-patch—ain't nare plumgranuy in dis yere pan—Phoebe Ruggles Noggles was jest 'miring dese yere millins—dat black 'oman whut stays wld Mls' Rilla Ruggles—an' Miss Villa, whut you reckon she say? Dat ar Mistah Sam Saylor whut nister live yere done come back tuh Bean Blossom, an' rich—whoa-e! Phoebe say Mls' Ruggles say she gwine tuh set her cap for him, sbo'—sbe tole Phoebe dat, na' Phoebe she say, 'W'y, Miss Rilla, you done 'fuse de man ten year ago,' an' Mls' Ruggles she titter an' say, s'she, 'Yas, but he pore es black-eyed peas dem times; now he done make gret big forebun

in dem kind o' rock whut he been 'speriment-in' wid ont rander, an' done stayed single all dis long time fer my sake,' an'—"

"Oh, my patience! Stop, Aunt Betty!"
Miss Arvilla held up her hands to stem the tide of gossip poured forth by her dnsky handmaid.

"Phoebe oughtn't repeat what Mrs. Ruggles says to her about her private affairs."

"Well, den," expostulated Aunt Betty, "whnt she say all dat tuh de gal fer? She jest dat simple she tell ev'rything tuh her, an' 'cose she houn' tuh 'peat it."

"But you needn't listen," said Miss Arvilla. "Now, auntie, please hustle and fix me up a good hot fire to make my mangoes hy, while I cut the melons and get them ready."

Miss Cobb drew a low, comfortable chair out upon the back porch, and sat down with her painful of melons and a big yellow bowl beside her. The floweriag bean-vines clustering about the posts of the porch screened the sun away and made lots of bright color with their deep red pods and purple-hued blossoms. Little yellow birds flew about picking seeds from the tall sunflowers. The sunlight was soft and dreamy. Everything was as it had been in the years whose associations Aunt Betty's gossipiag words had stirred. The scent of the sunflowers was the breath of the past. The clatter Aunt Betty was making in the kitchen with poker and stove-hook grew soft and melted into echoes of the old days. It was ten years back. Arvilla was oace more a slim girl of twenty-four (alone then, as now, with only faithful old colored Betty to take care of her), and tall Sam Saylor, the hero of her dreams, who never seemed to find anything but friendship in his heart for the pretty brown-eyed girl. It was her schoolmate Lorilla Loyd, black-eyed, rose-cheeked and brilliant, who fanned all the ardor of his nature into consuming flames, while she, a coquette to her fingertips, smiled upon, flirted with him, and in the end refused him for a wealthy elderly suitor, who died some years after, leaving far less available property for his widow than she had expected.

And Arvilla had staid single; and Sam had staid single.

The sleek white cat, who had been drowsing in a corner of the porch, came and rubbed her head against Miss Arvilla's dress, eyeing the little green melons in the bowl with a speculative gaze. Aunt Betty gave a final, emphatic bang to the stove-lid, and, presto! the years had rolled away and the present reappeared with its new troubles. Here was Sam Saylor arrived after this long time, with wealth enough to win the still rosy-cheeked widow, and again mast the old sorrow he dragged to light and home anew, the old love stifled, while Lorilla, who, according to village gossip, had angled for every eligible rich man she could hear of since her husband's death, had hut to accept her old-time suitor, and, like the heroines of the old fairy stories, live happy ever after—who that married Sam could help living happy ever after, thought Arvilla, wistfully, and she—

Here Miss Cobb gave herself a brisk shake, as she always did when she found herself getting blue.

"I won't," she said, emphatically, under her breath. "I won't get melancholy and morbid and miserable over it. If it is for her to have this happiness, and not for me, I know it's all right; and if I can't be happy, I'll be as happy as I can, and make others so."

Miss Arvilla gave Tabby a benevolent pat, broke into a saatch of song, and altogether presented the appearance of a wholesome, hearty, little youthful old maid without a regret in the world. That was the way she looked to the tall man who stalked suddenly around the corner of the porch, through the petunia-bordered walk leading from the front gate, around the house and to the back steps.

Miss Arvilla looked up and almost gave a shriek as he came up the low steps. It was as if the people in one's dream should stalk forth—flesh and blood realities—in this case a substantial, sun-burned reality, handsomer, if anything, than the dream memory.

"Why, Mr. Saylor!" she faltered, rising to greet him, with a sudden bloom in her smooth brown cheeks; while Tabby took the opportunity to put a pink nose investigatiagly into the painful of melons Miss Cobb had just set upon the floor.

"Why, Miss Cobb!" echoed the tall man, la merry mockery, grasping her hands heartily, and smiling in a way he had, just with those merry gray eyes of his.

Miss Arvilla felt dazed. The sunflowers, the bean-blossoms, the melons, all seemed to mix up and whirl before her. The breath of the old days blew up once more. A sudden thought of Lorilla came, acting as a restorative, sharp and pungent, but effectual, and enabled her to invite her visitor decorously into the parlor. But no—he had seized and seated himself upon a splint-seat chair, and was tipping it up in the old free-and-easy fashion against the porch railing, and Tabby was already rubbing against him with confiding boldness.

"It's no use, Arvilla," he said, with a mellow laugh, "you can't make company of me. I'm the same old sumpence in most things, and I'd rather sit on this porch with you and Tabby and the bean-vines than la the finest parlor ever evolved, and I want you to go ou

with your preserving, or whatever it is, just as you used to do. Do you know why I've come here the very first place after getting to sister Alice's?"

"To get hold of a rickety old chair on a back porch and see people make pickles?" asked Arvilla, demurely, her own composure restored by his easy matter-of-course way of taking things.

"Precisely," returned her visitor, "and your back porch in particular, Arvilla. It's the solemn truth that for years back the memory of my little friend living here 'all hy her lone,' with her old auntie, her cat and porch and sunflowers and bean-vines, has haunted me more than the thought of any one else ia Bean Blossom, and that's why I've come here first."

"Have you seen Lorilla yet?"

As soon as she had spoken Arvilla wished she hadn't—such a question looked so pointed, and she hadn't meant it to be pointed. It was just a thought that had slipped too quickly into speech.

Mr. Saylor looked totally indifferent.

"Not yet," he said. "I'm going soon. I hear she's handsome as ever, hut—I think I'm cared of a certain midsummer madness that once possessed me. By the way, Arvilla, where's Aunt Betty? I must shake her faithful old hand."

Miss Arvilla was a little late that day in getting her mango pickles made, hut they were certainly a great success when made, for she never ate one of them afterward without wondering what made it so especially delicious. It was as if the memory of one of the most perfect of autumn days, and the scent of sunflowers and bean-blossoms, and a new hope and a happy dream had all gotten mixed in and chopped up with the mustard-seed and cabbage and hell-peppers in those mangoes.

And now, at last, the dull little town of Bean Blossom had something to gossip about. Here was Sam Saylor come back, a handsome and wealthy bachelor. Here was his old love, a charming widow, and, so gossip said, only too willing to revoke her decision of years ago. And last, here was quiet Miss Arvilla going about her business, and yet, without lifting a finger to do so, steadily winning Sam from his old allegiance. Every one saw it. Aunt Betty nodded, and triumphed in it, and in her own way crowed over Phoebe, her crony, who let slip the fact that "her Miss Rilla say hit'd be a mighty cole day whenever she let a ole maid like Miss Villa cut her out, when she tuck a notion tuh marry."

"An' I spec dat so," muttered Aunt Betty to herself, shaking her head dismally over the hutter-beans she was gathering, with a sudden fit of gloomy presentiment. "She's jest dat sly an' 'ceitful, an' aiu't got a speck o' consciousness 'bout her, nomo'n ef she horned widout a conscience. Did'n she allus pry an' meddle in ev'body's 'fairs, aa' mingle 'em all up, ef she could'n do nuttin' else? She radder tell firs dan de straight truff, jest fer de 'citement—she jest dat-a-way. An' I het a simlin sbe do some devilment an' mek trouble fer Miss Villa 'fore she git th'oo. An' Miss Villa, she tink ev'body good as her, an' won't do nuttin' tuh 'tect herse'f. I jest gwine tuh watch out my own se'f—dat whut."

Whether auntie possessed a prophetic soul or not, her forebodings were destined to be realized.

Mrs. Lorilla Ruggles had taken to visiting at Miss Cobb's snug cottage oftener than of yore. Sometimes she found Mr. Saylor there, sometimes not; and one morning she found nobody, Miss Arvilla having just a minute before tied on her broad hat and run across a corner of her lot and two blocks away to Mrs. Larkspur's with a bowlful of her freshly made Damson preserves, and Aunt Betty was out in the garden spot back of the sunflowers gathering late green tomatoes for pickles.

The door opening from a side porch was ajar, and Mrs. Ruggles, with neighborly freedom, walked into Miss Arvilla's sitting-room.

"Got all her work done up early," commented the fair widow, surveying the neat apartment with a critical eye. "Everything spic-and-span—just like an old maid. All ou the place-for-everything-and-everything-in-its place system. I suppose Arvilla'd take fits if that sunbonnet of hers should happen to get hung on any other nail—my! aiu't it starchy and immaculate! Sweet simplicity, too, pure white, with one little butterfly bow on the top—seems to me that's a trifle too youthful for her. I believe it would become me to a T, aow."

The rosy widow removed the light scarf she had thrown over her head, and taklug the dainty white bonnet from its book, she drew it over her silken black tresses. It was very deep and close-fitting, and had a crimped double ruffle on the edge.

"It is becoming," commented the widow, tipping her head from side to side before the looking-glass, which bug between the windows. "Only I look a little ludistinct away back in there—goodness, who's that tearing down the street tbat way?"

There was a sudden sharp rattling of wheels and a sound of prancing hoofs out lu the smooth, hard village street, and Mrs. Ruggles, looking out of one of the windows, beheld a man in a light buggy attempting to pull up an exceedingly frisky and unwilling colt at the gate.

"It's Sam," breathed the widow to herself, her smooth black eyebrows hitching a little closer together under the white bonnet, "with that villainous, unbroken colt of his; he's trying to stop him at the gate. I'd just like to know, Mr. Sam, what you want to stop here for so much, and I'll find out if I can."

Aunt Betty, from her row of tomato-vines, beheld the frisky colt at the side gate, whose driver was having much ado to keep him from holting headlong against the fence. Then through the gold-tinted dusk of the thickly growing sunflowers she descried a figure making its way down the walk, the only plainly discernible feature of which was a deep white sunbonnet with a butterfly bow on it.

"Morning, Miss Villa," called a voice, rendered rather jerky by the animal's sportive movements. "Can't stop a minute, as you perceive from the pernicious activity of this rascally colt I'm trying to break; hut I just want to ask you—"

Here the colt made a leap past the gate and down the road, and was only whisked around and back again by a feat of dexterity and strength on the part of his driver.

"Will you go to the fair with me to-morrow, Villa," he called, "in my buggy—not behlad this specimen?" He added the last as the colt made a frantic lurch across the road. Once more he manipulated the animal withla speaking distance.

"Villa," he called, hastily, "I can't hold this little scamp another minute—please say you'll go, woa't you—sweetheart?"

There was a brisk, emphatic nod of the deep bonnet, which the young man had only time to note clearly, as the mettlesome steed, gathering his energies together, in the effervescence of his spirits and the lightness of his heels, made one desperate bound, and went clattering down the street, the hit so effectually between his teeth that Mr. Saylor for the next half hour found himself taxed to the utmost to keep the creature in the middle of the street and avoid being run away with outright.

Mrs. Ruggles walked briskly back to the house, hastily twitced off the white bonnet and hngg it carefully upon its hook, threw her scarf over her head, and tripped away to her own home, with a feline expression of having come as near to eating the canary as circumstances would admit of.

"It'll muddle 'em up a little, when he goes after her, and she doat kuow anything about the appointment, if it don't do anything else," she reflected, benevolently. "And there's no telling what kind of a game of cross purposes it may get them into—especially if I can manage to follow it up a little."

Miss Arvilla, returning from her neighborly call, found all just as she had left it in her orderly cottage, caught a strain of the camp-meeting tune Aunt Betty was singing, as she still loitered at her task, and beholding a group of visitors enterlug her little front gate, gave the remainder of the day to the duties of hospitality, never dreaming what a web fate, in the person of Mrs. Lorilla Ruggles, had woven for her to walk into.

Having set her hand to the business, the widow was finding material to continue her weaving. She was meditating a bold step.

"It's just as well to tangle thlugs up good all around while I'm about it," she decided. "If they don't manage to unravel the snarl it's that much clear gain to me; and if they do—well, they can't do anything to me—I'm perfectly innocent—it was purely a mistake and misunderstanding—doesn't Villa sound like Rilla, especially at a little distance, and did I know he took me for her?"

The next morning was still in its youth—a hazy, gold-mellowed youth—and Miss Arvilla was tidying up her neat sitting-room betimes, while Aunt Betty fried the giddle-cakes for the morning meal, when the brisk widow tripped in, making an excuse in the bringlug back of Miss Arvilla's small basket, borrowed some time ago.

"I brought it early," she explained, "for fear you might want to take lunch in it to the fair. Are you going?"

"I don't know," replied Arvilla. "Are you?"

Mrs. Ruggles giggled girlishly.
"Sam Saylor was begging me to go with him, yesterday," she answered, looking out of the window, yet with a corner of her eye on Arvilla. "And Villa, what do you think? I believe he is getting soft again—he called me 'sweetheart,' and he just beset me to go to the fair with him."

"Well, why don't you?" asked Miss Cobb, stooping to tuck in a corner of the chintz coverlug of her lounge.

"Oh, I don't know—country falrs are so stupid," returned Mrs. Ruggles. "Mobs of people, and it's always hot, and you get a bead-ache, and get sick of seeing the tidies and quilts and mats and jellies and loaves of bread, and all that. I don't think I care to go; shall you?"

"No," returned Arvilla, quietly, "I don't think I will."

"Well, then, suppose you come over and spend the day with me," urged the widow, eagerly. "I'll be so glad to have you. Come right off after breakfast, won't you?"

"I don't know," responded Miss Arvilla, a trifle absently. "I'll sec."

"Now please do come," pressed the widow,

"Come right straight off after breakfast—I'll look for you."

She glanced back from the path as she went, to reiterate her invitation; but Arvilla heard her vaguely as she responded to Aunt Betty's summons to breakfast. She took her seat calmly at her inviting table, but the crisp, golden batter-cakes, delicately poached eggs and juicy broiled ham might have been but shavings and sawdust for all the relish Miss Arvilla had for them this morning. Aunt Betty brought in the coffee-pot, steaming fragrantly.

"Is you been fixin' tuh go tuh de fair, honey?" she inquired, pouring out the rich liquid into a pink-sprigged china cup.

Another thorn-thrust for poor Miss Villa. The hot tears were very near to her eyes.

"No," she managed to reply. "That'll do new, aunty; I can wait on myself, and you run and let the old yellow hen and her chicks out of the coop, and feed them, and watch that the other chickens don't eat all the feed from the little ones."

Perhaps it wasn't very dignified, but once alone, Miss Arvilla broke down and cried with all the abandon of a silly girl of sixteen.

She arose from the table and walked to the window, looking out into the cool, dewy shrubbery. A huggy drawn by a hay horse came rattling down the smooth white road, whose driver reined up at Miss Arvilla's gate.

"Oh, it's Sam—what'll I do?" Miss Arvilla wrung her hands. "And what's he coming here for?"

Then a bitter thought came.

"Perhaps as long as Lorilla wouldn't go with him he's going to ask me to go to the fair."

She caught sight of her face in the small looking-glass hanging beside the window—a dreadfully tear-stained face; her eyes were red, and worse, her nose was red. Miss Arvilla never could cry without making herself look like a fright. A little gust of pride arose in her heart.

"He sha'n't know I've cried about him—like a dunce," she declared to herself. As he came up the walk she turned, sped out of the room, up-stairs, and into her room, locking the door as she entered.

Aunt Betty, coming up to the porch a few minutes afterward, found a rather puzzled-looking young man knocking at the back door.

"Hallo, aunty," said he, "I thought you had all been kidnaped or something. I've rung at the front door and knocked at the back, and not a sound can I get out of the house. Where's Miss Villa?"

"Dunno, sah," responded Aunt Betty. "I lef' her in de dinin'-room. Don't 'pear lak she's anywhere about, now," she added, after investigating the premises, with Mr. Saylor following her about.

"Oh, I'll tell you," said he, cheerfully, "she's up-stairs fixing to go to the fair—she promised to go, yesterday. Just run up and see, aunty, and I'll sit out on the porch and wait."

Aunt Betty shook her head in dismal doubt, but proceeded to climb cumbrously up the stairs. There was dismay and vexation in her dusky countenance when she returned.

"She up dar, sho' nuff," she announced to the impatient Sam, "but whatever done got inter her heats me. She say she ain't gwine tuh no fair tuh-day ner no yother day—an' she say fer me tuh make her 'seuses an' ax you tuh please 'sense her f'om comin' down."

"Isn't she well, aunty?" asked Mr. Saylor, anxiously.

"Reckon so," responded aunty, "but de do' shet, an' I haddab talk froo hit. Mebbly de ham er somethin' didn't 'gree wid her, but dough she well enough dis mawnin', an' I ax her den ef she gwine fix fer de fair, an' she say no mighty flat."

There was nothing for it but for Sam to take his leave, which he did, puzzled, aggrieved and somewhat offended.

It was the middle of the forenoon when Miss Arvilla came down-stairs, and her eyes were still red. She went into the kitchen, where Aunt Betty was peeling apples for drying.

"Miss Villa," said the old colored woman, with a mixture of tenderness and exasperation in her tone, "what yuh reckon Mistah Sam gwine tink o' yuh now?"

"I don't care," returned Miss Arvilla, wearily. "I don't suppose it matters."

"Huh!" snorted old aunty. "how dat? Miss Villa, 'scuse me, honey, but don't 'pear tuh me you treatin' dat young man jest right—a-promisin' faithful yes-day tuh go tuh de fair wid him, an' 'fusin' right slap tuh-day, widout 'splainin' no reason."

Miss Arvilla opened her eyes somewhat wider.

"What's got into you, aunty?" she asked. "I never promised Mr. Saylor to go to the fair with him; nor even saw him at all yesterday."

"Miss Villa, honey! I wish you'd hush!" Aunt Betty held up her hands in amazement, an apple in one, a knife in the other. "Is you sho' you's right well, ehile—ain't yo' head 'ot, er nuttin'?"

Miss Arvilla laughed in spite of her unhappiness.

"I'm all right," said she, "as far as my brain is concerned, I assure you. It must be you that's got a fever, aunty!"

"Miss Villa," said Aunt Betty, solemnly,

"tell yo' ole aunty, now, did'n yo' go down tuh de gate yis'day aftahnoon when Mistah Sam came 'long wid dat eolt o' his'n, an' stan' at de gate; an' when he haiged you tuh go tuh de fair, did'n you hoh yo' head dis-away?" (Here aunty ducked her turban vigorously.) "Did'n you do dat?"

"No," returned Miss Cobb. "I tell you, aunty, I didn't see a sign of Mr. Saylor all day yesterday."

The old colored woman broke into a dismal wail.

"Oh, Lawd, hab mussy!" she shrieked. "You gwine die, Miss Villa. Oh, my honey ehile! My honey ehile!"

"Nonsense, aunty," remonstrated Miss Cobb. "Stop taking on that way, and tell me about it. Wheu did you think you saw me?"

"When I's a-pickin' tomattnses," lamented aunty. "I seen you wid my own eyes, a-walkin' down de paff froo de sunflowers, wid yo' little white sunbonnet on yo' head—my po' ehile, hit must 'a' been yo' donhle—hit a sign yo' gwine die, an' whut po' ole Aunt Betty do den. Oh, my precious honey-lamb!"

"Aunty, stop," cried Miss Villa, "aud listen! It wasn't my double at all, but it was't me, for I was over at Mrs. Larkspur's nearly all the time you were pickin' tomattnses. If you saw my white sunbonnet, somebody must have had it on, and it'll show signs of it, for I haven't touched it since it was done up. Come along now, and we'll investigate a little."

The two went into the sitting-room, and Miss Cobb took the white bonnet from its nail.

"There, I told you so," said she. "Aunty, do you see, those strings have been tied, and the ruffle mussed a little. If it had been my double that had it on there wouldn't have been any ereases in the strings."

Miss Cobb gave the bonnet a little shake, preparatory to hanging it up again. As she did so something fell out upon the window-sill with a clink—a large hair-pin, with an ornamental oxydized silver head.

Aunt Betty pounced upon it.

"Tank de good Lawd, honey," said she. "I reckon yo' isn't gwine die jest yit; don't 'speer yo' double'd 'a' lef' a hair-pin in de bonnet, au' one dat 'long tuh Mis' Rilla Ruggles, too. Did'n I jest 'low she play some trick? I gwiue right over dar an' 'front her wid it."

"No, aunty," said Miss Villa, gently, "don't be bristly about it; there isn't any need to say it was in the bonnet. Of course, we must return the hair-pin, but you can simply say we found it, recognized it as hers, and that she must have lost it out of her hair accidentally while here—which is the truth."

Aunt Betty tied on her flapping big hat and set forth upon her errand, meditating as she went:

"Now, dat jest like Miss Villa—she allus 'turn good fer evil. An' dat all right, too, mos'ly; I hleeves in hit—but dat ar baggage Miss Rilla, a-snurlin' up things like she done! I mos'ly allus does jest 'zaetly whut Miss Villa say, but dis time I gwine tell dat 'oman whut I gwine tell her—dat's whut!"

Poor Sam Saylor, having gone away from Miss Cobb's disconsolate, could think of nothing better to do than to seek Mrs. Ruggles, and gather what consolation and sympathy he could from her. The fair widow was ready with both.

"That was just like Villa to do so; you never could count on her; all sweetness one day and sour as vinegar the next! Oh, yes, she knew her of old—she'd make promises and then break them without a thought, if it suited her convenience; it was a way she had; but it was too unkind to treat an old friend that way, etc."

Thus the widow purred over and sympathized with and petted Sam to such an extent, and looked so handsome, withal, in her red jacket, matching the rich color of her cheeks, that for a moment Sam imagined he felt something like a shadow of the old fascination stealing over him. They were sitting upon the shaded porch at the side of Mrs. Ruggles' pretty cottage, Sam loling on a rustic settee, while Mrs. Ruggles rocked gracefully in a large wicker rocking-chair, when the stout form of Aunt Betty waddled up the walk and climbed the broad steps, presenting the ornamental hair-pin to Mrs. Ruggles without circumlocution.

"Miss Rilla," she announced, "yere dat hair-pin o' yourn whut git ketched in Miss Villa's white sunbonnet yes-day, time you put it on an' went down tuh de gate, when Mistah Sam come along wid dat ar skeery critter an' ax you to go tuh de fair—dough he tink you Miss Villa all de time; an' she know nuttin' 'bout it; an' dat how come it she say she not gwine tuh de fair when Mistah Sam came dis mawnin'—reckon de pin git ketch in de raylin's on the fur-in aige o' de bonnet, an' stick dar tell hit drap out dis mawnin' when Miss Villa take de bonnet off'n de nail."

Sam stared, speechlessly, at Aunt Betty, then turned his eyes upon the widow, whose face was flaming much redder than her jacket.

"Was it you?" he demanded, springing to his feet. "I remember I didn't see the face plainly in the bonnet, but thought of course it was Villa. Was it you all the time?"

Sam looked so stern and determined that the fair mischief-maker's wits refused, on the

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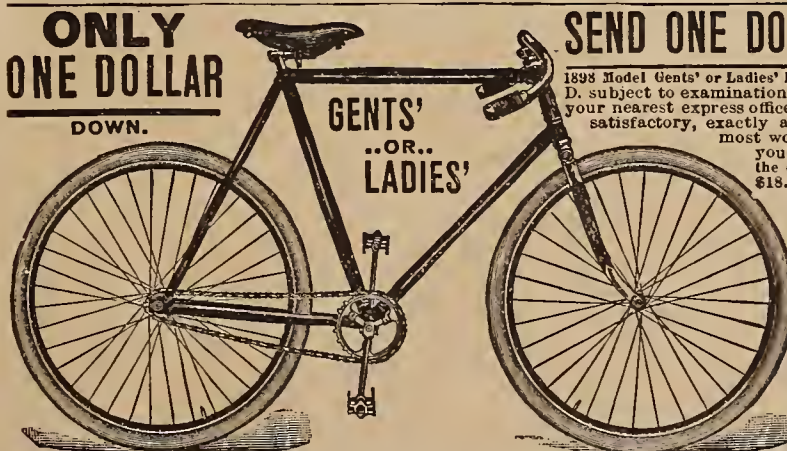
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spur of the moment, to provide her any plausible way out of the dilemma. She giggled helplessly.

"It was only a little joke, Sam," she protested. "You know I was always full of mischief—all innocent, of course—and I just wanted to—"

But Sam was out in the road before she got to the end of her sentence, striding off in the direction of Miss Cobb's house at a tremendous pace, with Aunt Betty puffing along after, breathless with trying to keep in sight of him, her dusky countenance gleaming with satisfaction and perspiration.

When Miss Arvilla beheld Sam Saylor entering her little white gate for the second time that day she did not repeat her performance of the morning and fly from him, but met him bravely on the porch, for something in his face and manner told her that a rough place in her path had become smooth.

And Aunt Betty, beholding the two sitting side by side upon the rustic bench on the porch, as she panted up the walk, waddled delightedly around to the kitchen.

"Hit done turn out all right," she chuckled to herself. "Look like dey 'splain it all mighty good an' plain tuh one anodder. An' I gwine hunt de 'cept-book straight up, an' fix fer tuh make de bigges' weddiu'-cake eber 'factured in dis yere town—dat's whut!"

THE MACHETE.

"It is curious how the humble machete that I used to know so familiarly in by-gone days has been brought into fame by this Cuban revolution," said a former West Indian planter. "It reminds me of the strange way in which the Civil War in this country took a grotesque song about 'The land of cotton, cinnamou-seed and sandy bottom'—a song of burnt cork, banjo and bones—and made of it a war-hymn that to millions of Americans is still sacred. The history of this century includes 'Dixie' among its documents. And to-day the eyes of mankind are directed to the tableau of Columbia arming Cuba for the battle, and, instead of 'Voici le sabre,' Columbia sings 'Take the machete.'

"Don't you know what a machete is? It is an agricultural implement, something like the primitive corn-knife of this country, used where hand labor rules to cut the corn-stalks for gathering into shocks, only the machete is heavier, sharper, a little longer, and broader in proportion, broadening toward the point. The crop it has to reap is the sugarcane, which, in the West Indies, at least, is much thicker and tougher than the thickest corn-stalk, and is toughest near the ground.

"However, the ordinary use of a machete goes far beyond the mere cutting of the cane crop. The wild shrubs and the withes, or repp vines, which make the underbrush of the West Indies, are of a tough fiber. In the temperate zone underbrush is something of an obstacle in getting through the woods when one is in a hurry, but it is an obstacle that can be put aside with the bands at the cost of a few scratches and rents. In the tropics underbrush is a much more serious matter, as our soldiers are likely to learn with some pain. There the shrub that has taken only a few years to grow commonly takes much more than a few seconds, or even minutes, to break, and the withes have a way of twisting themselves together into hawsers of many strands and great strength, hanging in loose bights high and low from the boughs overhead. It is absurd to think of stopping to break branches of shrubs if you wish to move rapidly through a tropical forest, and even if you have plenty of time and muscle to spare for the exercise your patience is likely to succumb under the exasperating embraces of those long, limber 'lianas.'

"So for generations the machete has been a necessity to the rural population, from whom the rank and file of the Cuban insurgents have been mainly recruited. They have used it to reap the crops, to clear the land for fresh cultivation, and to help themselves to an open pathway whenever they wished to make a short cut through the bush. The list of those uses must have become specially important in the guerrilla warfare of recent years. At the same time those Cubans who most readily joined the revolutionists were just the class to whom the machete was the most natural weapon of offense and defense.

"You will find the machete occupying much the same place in their daily life among the inland negroes of Jamaica, for instance. They call it a mashay there. They, too, acquired a good deal of skill in handling it, and in at least one riot they have used it with murderous effect as a weapon, though never in hand-to-hand fight with armed forces. Some years ago, and, for all I know, even now, almost every other negro to be met on a country road in Jamaica would be carrying a mashay, unsheathed, because they were no more provided with scabbards than hoes or pickaxes would be. It was the peasant's constant companion, and might occasionally be his protection against a savage dog or, in some districts, a stray alligator, or he could use it to chop up a snake, just on the general principle that a snake, even if harmless, should always be chopped up. Not infrequently it has figured in the criminal courts, when two negroes have

fallen out after too much conviviality at the roadside rum-shop.

"One interesting thing about it is that Columbia has armed Cuba with the machete in a commercial and literal sense, as well as in a political and figurative one. The machetes used throughout the West Indies were formerly mostly of English make; now they are American. The American manufacturers have fairly beaten their competitors in this line, as in others, until now there are comparatively few, if any, English-made machetes sold in that part of the world. It is not likely that the Cuban patriots will ever bew down Spanish soldiers with machetes, or ever have done so to any great extent; still there is a certain poetical fitness in the American-made machete as the emblem of this Antillean war of independence—a guerrilla machete."

MOISTURE IN WOOD.

Over sixty per cent of wood may be converted into liquid. The strongest hydraulic pressure would not squeeze one half of one per cent of moisture from dry wood; but by putting the same material into an iron retort and converting it into charcoal by means of heat, the gases and smoke, to the extent of fully sixty-five per cent of the weight of the wood, may be condensed into pyroligneous acid, from which are obtained wood alcohol, acetate of lime and wood tars. A cord of wood weighing four thousand pounds produces about two thousand six hundred and fifty pounds of pyroligneous acid and seven hundred pounds of charcoal.

The pyroligneous acid from one cord of wood produces nine gallons of eighty-two-per-cent crude wood alcohol, two hundred pounds of acetate of lime and about twenty-five gallons of tar, besides thirty-five bushels of charcoal. After the pyroligneous acid is neutralized with lime the wood alcohol is distilled off, the lime holding the acetic acid in solution. After the separation of the wood spirit, the remaining liquid is hoiled down in pans to a sugar, which is dried and becomes the acetate of lime in commerce. Acetate of lime is used for making acetic acid. Fully three fifths of all the wood alcohol and acetate of lime produced in the world are made in the United States. A considerable quantity is also produced in Sweden. Over fifteen thousand acres of forest a year are cleared in the United States. Wood alcohol affords a perfect substitute for grain alcohol for manufacturing and mechanical purposes, and at less than one third the cost. It is used principally as a solvent in the making of shellac varnish and in making celluloid and photographic paper. It makes beautiful dye tints, is antiseptic and is used for liniments and for skin-rubbing in bath-houses.—Mining and Scientific Press.

THE QUEEN'S FOUR-LEAVED CLOVER.

An amusing story of Queen Hortense, daughter of the Empress Josephine and wife of Louis Bonaparte, king of Holland, has lately been told. After her exile from Holland the ex-queen sojourned for a time in a modest habitation near Constance, in Switzerland.

As her health was broken down by her troubles, her physicians prescribed a visit to the mountains of Appenzelle, and the ex-queen, accompanied only by a reader or female companion and two or three servants, went to a rustic neighborhood in the hills. There she and her companion found nothing better to do than hunt for four-leaved clover, and became quite excited in the search.

"To lend the matter interest," the queen wrote in a letter which has been brought to light, "we would assume that each discovery of a four-leaved clover had some prophetic significance. The next one, if found so and so, meant that we should return to France; another meant that I was to receive a letter from my son Louis, and so on. In this innocent pastime we found positively the only excitement that was open to us in the place.

"But soon it was nolsed abroad among the children of the neighborhood that we were continually hunting four-leaved clover, and consequently, these children argued, we must want it very much. Then all the children and some of the grown people were out hunting four-leaved clover, and soon great hunches of it were brought to us, for which we had to show ourselves very grateful.

"In another day our only resource for amusement was gone, for these kind but superserviceable people had stripped the neighborhood for a mile around of all its four-leaved clover.

THE GRAVITY OF A SMALL ERROR.

Bookkeeping has been reduced to such an exact science in the big metropolitan banks that the clerks are expected to strike a correct balance at the close of each day's work, no matter if the transactions run into the millions of dollars. When the books fall to balance, the whole force of the bank is put to work to discover the error; and no clerk starts for home until it is discovered, whether it amounts to two cents or \$2,000. Generally a quarter of an hour will bring the mistake to light, but sometimes the hunt is kept up until late in the night. Such a search was being conducted in a New York bank located

in the vicinity of Wall street. Forty-five cents was missing. At six o'clock not a trace of the errant sum had been discovered. Dinner was sent in for the whole force from an adjoining restaurant, and after half an hour's rest the search was again taken up. Midnight came, but still no clew; so sandwiches and coffee were served. "Hello!" said a clerk. "The National bank people are working to-night, too. Guess they're in the same box." Sure enough, the windows of the bank across the street were brilliantly lighted. The incident was soon forgotten when the wearying hunt after the elusive forty-five cents was resumed. Shortly after one o'clock in the morning, as they were about to give up for the night, a loud rapping was heard at the front door of the bank. "Hello! Hello! What's the matter?" called the cashier through the key-hole. "Matter, you cumps! Why, we've got your old forty-five cents! Come along bome to bed!" Outside stood the crowd of clerks from the neighboring bank. It appeared that in making a transaction one of the banks had paid the other forty-five cents too much. As a result half a hundred men had worked for nine hours; and the search was only ended then because a bright clerk, noticing the light in the bank opposite, shrewdly guessed the cause, hunted up the cash slip, and discovered the error.—Harper's Round Table.

A CURIOSITY IN STAMPS.

It is generally understood that each country where stamps are used is responsible for the preparation and issuing of these articles. The announcement, therefore, that one little French colony makes about two hundred varieties of stamps comes as a bit of surprise. This is the colony of Obock, and is simply a great stamp-factory. The capital of the place is a little village of bnts, and the administration consists merely of a governor, with eight functionaries. The methods of these people are somewhat novel. The secretary of one of the engraving companies is under contract to supply without charge whatever postage-stamps may be needed by Central and South America. Coupled with this agreement is the understanding that every year the design is a new one. The government returns to the company whatever stamps remain on hand unused. The manufacturers keep the design plates and paraphernalia in order to make reprints for collectors. Under these circumstances it is not remarkable if very great latitude is allowed to their caprices by these people whenever they desire to run out a new issue of stamps. In one instance a man took possession of a rocky island, where there were no inhabitants, gave the place a name and had an immense issue of postage-stamps prepared, all of which were furnished to collectors at a good profit. If this sort of thing keeps on it will be easy enough to fill one's hooks with specimens which have really no local habitation or name. Stamp-collecting is all very well and interesting, but when it comes to making stamps for places that have no actual need for them or even an existence to warrant their turning out, it is time the line was strictly drawn and some effort made to keep the fad on at least a rational basis.

THE UNLETTERED LEARNED.

Crudity of diction is not always indicative of crudity of thought. The latter has been longer in the world than language, for the primeval savage was not without the elements of mind, when gestures and grunts were his sole means of expression. To rebel is as human as to err, and he who defies grammar is not necessarily a fool. How often we hear it said, "Oh, he's an uneducated man," and so pay no serious attention to what the "unfortunate" may have to say. It may happen that we suffer more than he does by such assumed superiority. The round of the seasons can effect as much as a college curriculum to an open-eyed man. Not in the same direction, not with equal artistic finish; but fool himself who sets down the untutored student of the outdoor world as little better than a fool. By syntax and prosody we cannot solve the problem of an oak-tree, or that of the minnow in the brook that flows past its gnarly roots. Greek philosophy does not explain the color of a flower, nor Roman sophistry why birds build nests.—Lippincott's Magazine.

COLOR OF THE EYES.

It is not generally known that the eyes of infants are always blue, and that they do not begin to assume their permanent color until the sixth or eighth week. There is, therefore, truth as well as poetry in the statement that babies look about them in "blue-eyed wonder." The wonder may be left to poets and philosophers, but the blue is always a practical fact. It is not uncommon to see different colors in the eyes of the same person, and even in the same eye, half of the iris is sometimes brown and the other half blue. There is a popular notion that dark eyes are stronger than light ones. There is no truth in this except so far as they are better protected against excessive light. Hence light eyes prevail among northern nations and dark eyes among the races who live in the glare of a tropical sun.

THE WAY THE SPANISH SAY IT.

Ruiz—Roo-eth, equal accents.
Santa Cruz—Sabu-tab Krooth.
Maceo—Mah-the-o, accent on first syllable.
Cadiz—Kah-deeth, accent on first syllable.
Eulate—Aoo-lah-te, accent on second syllable.
Blauco—Blabng-ko, accent on the first syllable.
Bernabe—Bear-nah-be, accent on first syllable.
Cavite—Cab-vee-tay, accent on second syllable.
Gomez—Go-metb, accent on first syllable; o long.
Cabanas—Cah-wab-nas, accent on second syllable.
Galicia—Gal-eeth-ee-ah, accent on second syllable.
Sagasta—Sagasta, as spelled; the a's sound as in cat.
Canovas—Car-no-was, accent on second syllable; o long.
Reina Mercedes—Rayee-nah Mer-tbe-dez, accent on first syllable in Reina, second in Mercedes.
Maria Rodriguez—Mah-ree-a Ro-dree-geeth, accent on second syllable, both words; o in Ro is long.
Perico Diaz—Per-ee-ko Dee-ath, accent on second syllable in Perico, accents equal in second word.
Puerto del Padre—Poor-er-to del Pah-dro, accent on second syllable of Puerto, first syllable of Padre; o's long.
Jorge Juan—Whorg Whahn; in these words the J has the German sound of ch, but it can be best represented in English by wh.—Southwestern School Journal.

THE FIRST SHOCK OF BATTLE.

Men even of the strougest nerves and the most undoubted pluck do not feel quite comfortable when, for the first time, under fire. It is no dishonor to his manhood if the heart of the young soldier beats "double quick" in his maiden battle. This feeling soon wears off.

During the war in Crimea the men in the allied army were often heard speculating on the eve of the conflict upon the probability of obtaining certain articles of clothing, of which they stood in need, from the bodies of the Russians they expected to slay. They never seemed to take into consideration their own chances of being knocked over and stripped by the Russians. The cool and systematic manner in which they provided themselves with foot-gear is worthy of note. When a French or English soldier, on the lookout for "unconsidered trifles" after a battle, descended on the field a corpse of an enemy whose boots seemed likely to suit him, down he lay on his back, and putting his soles against those of the dead man, ascertained by that mode of measurement whether the articles were near enough to a fit to be worthy the trouble of removal.—New York Ledger.

CHINESE NERVELESSNESS.

A north China paper is responsible for the statement that the quality of nervelessness distinguishes the Chinaman from the European. The Chinaman can write all day, work all day, stand in one position all day, weave, beat gold, carve ivory, do infinitely tedious jobs for ever and ever, and discover no more weariness and irritation than if he were a machine. This quality appears in early life. The Chinaman can do without exercise also. Sport and play seem to him so much waste labor. He can sleep anywhere, amid rattling machinery and deafening uproar. He can sleep on the ground, on the floor, on a chair, or in any position.—New York Ledger.

ALUMINIUM SHOES FOR CAVALRY HORSES.

Russia has tried experiments with aluminium shoes for cavalry horses. A few horses in the Finland dragoons were shod with one aluminium shoe and three iron shoes each, the former being on the fore foot in some cases, and on the hind foot in others. The experiment lasted six weeks, and showed that the aluminium shoes lasted longer and preserved the foot better than the iron ones.

POINTS ON HYPNOTISM.

Editor of FARM AND FIRESIDE:—

For the information of your readers and to correct the erroneous impression which is more or less prevalent that Hypnotism is a mysterious and dangerous power possessed only by certain individuals, who, if so disposed, could make evil use of it, permit me to state that any person can become a successful Hypnotist, but hypnotized subjects cannot be made to do anything that would involve serious consequences to themselves, hence, it is a purely harmless means of amusement and recreation. I have taught the art by mail to thousands of persons who have found in it a means of personal gratification and entertainment to friends so delightfully inspiring that the letters of thanks I receive would fill volumes. I cannot trespass further on your valuable space, but if any of your readers are desirous of learning more of this modern science, I will be glad to teach it to them. Prof. J. R. HERRIN, Hypnotist, Decatur, Ill.

We refer our readers to Prof. Herrin's advertisement in another column.—Adv.

CHANGE OF AIR.

This being the period of the year when we are all more or less feeling the necessity for a change, and are meditating a visit to seaside or inland places, a few words of warning and advice may not be out of place. Much depends upon the selection of a spot to spend one's holiday for the benefits or the reverse that may result from the change, and fathers and, equally, of course, mothers would do well to study this question a little closely before making up their minds where to betake themselves and their families. Highly nervous persons, the victims of hypochondria, those suffering from excessive brain work—above all, those in whom these conditions are found in conjunction—should not, as a general rule, be advised to try the seaside. A quiet inland locality or some hilly spot of moderate elevation will be found to suit their cases better. The ceaseless beat of the sea waves is mentally depressing, while the highly strung, nervous patient is irritated instead of being braced up by the stimulating effects of the sea air. Those who are just recovering from a serious illness should not be sent prematurely to the seaside; but after convalescence nothing conduces more to complete cure than a resort to one of the many watering-places. To those, however, who are meditating a change for the sake of change of air and to get themselves into condition again after a long spell of monotonous work, and who are otherwise sound and well, we know of no better or more beneficial way of spending a holiday than by the seaside—unless it is to spend it on the sea.

EXPANSION OF SOLIDS BY HEAT.

The expansion of solids by heat is exemplified in the following cases: A glass stopper sticking fast in the neck of a bottle often may be released by surrounding the neck with a cloth taken out of warm water, or by immersing the bottle in warm water up to the neck; the binding ring is thus heated and expanded sooner than the stopper, and so becomes slack or loose upon it.

In an iron railing a gate, which, during a cold day, may be loose and easily shut and opened, in a warm day may stick, owing to there being greater expansion of it and of the neighboring railing than of the earth on which they are placed.

The iron pillars now so much used to support the front walls, of which the ground stories serve as shops with spacious windows, in warm weather really lift up the wall which rests upon them, and in cold weather allow it again to sink or subside.

The pitch of a pianoforte or harp is lowered on a warm day or in a warm room, owing to the expansion of the strings being greater than of the wooden framework; and in cold the reverse will happen. A harp or piano which is well tuned in a morning drawing-room cannot be perfectly in tune when the crowded evening party has heated the room.

"SEE A PIN AND PICK IT UP."

It may be before long that our pins will have to be dipped in carbolic acid before being put on our bureaux. For pins have been proved to be a prolific source of danger in spreading contagious diseases. All kinds of germs, it is said, can be collected under the heads, and nurses who indulge the feminine habit of holding pins in their mouths lay themselves open to serious attack. The doctors who have warned the public say that many of the so-called new pins are not new at all, but have been picked up in the streets and laid side by side with the others. The idea is not an altogether pleasant one, and is, moreover, one likely to increase the uneasiness of the overfastidious.

There are some women now who are so afraid of germs that they wash all their gold and silver pieces before handling them, and who never allow a bank-bill to go into their purses until it has been wrapped in some kind of disinfectant paper. They even require the shop-girls who hand them their change to wrap it in paper first. What is to be done, if all this is so, with the popular superstitions about picking up all the pins that one sees, and never passing a penny in the street?—Harper's Bazar.

TOTAL AREA SMALLER THAN TEXAS.

There seems to be an idea in some quarters that there is something appalling in the magnitude of the schemes of territorial expansion which the United States now has under consideration. This is not true. The possible additions of our domain are almost insignificant when compared with the present area of our possessions.

Some figures on this subject have been compiled by the New York "Mail and Express," and they disclose a fact that will be surprising to many; namely, that if the United States were to annex Hawaii, retain the Philippines, and capture and hold Cuba and Porto Rico, our territory would be increased 247,743 square miles, or an area considerably less than that of the state of Texas. This is a fact worth knowing, and shows that nothing vast in the way of territorial acquisition is proposed.—Rochester Democrat and Chronicle.



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MAST, CROWELL & KIRKPATRICK, Pubs., SPRINGFIELD, OHIO

Our Household.

AN ECHO FROM THE PAST.

BY A. M. MARRIOTT.

A little head is nestled on my shoulder,
A little form is clasped against my breast,
And back and forth in the quaint willow
rocker
I seek to soothe the tired child to rest.

This joyous, mischievous, fun-loving urchin,
Whose tender summers only number two,
Who gently pats my cheek with dimpled fin-
gers
The while he softly whispers, "I love 'oo."

The darkened room and gently swaying
rocker
Fail to conjure the drowsy God of Sleep;
And so I listen to the wondrous "tories"
That elf-like through his busy fancies creep.

Although I scarce can understand the lan-
guage
He uses to describe the tales he tells,
'Tis little matter, for the busy chatter
Stirs up my heart where fondest memories
dwell.

Of one who years ago, like this dear treasure,
Pressed softest kisses on my lips and brow;
Who in those happy days returned in full
Love's measure,
Clasped in my fond embrace as Ralph is
now.

The years have flown, and changes have been
many,
And Time has laid his hand on heart and
brow;
But still I seem to hear his sweet voice call-
ing "Mama,"
Much like this little rogue says "Grandma"
now.

HOME TOPICS.

BREAKFASTS.—Undoubtedly, break-
fast is the most difficult meal of the
three to plan for so that there
shall be variety enough to tempt the
appetite and yet not such an elaborate
menu as to weary one in its preparation.
Some one of the cereals finds a place on
nearly every breakfast-table, but should
be varied. Sometimes oatmeal, and some-
times cerealin, wheatlet, shredded wheat
or some of the other preparations of grain
are used, while sometimes the cereal is
omitted entirely and milk toast served
in its place; or pieces of either white or
brown bread may be slowly browned in the
oven until they are dried through, then
rolled, and a dish of the crumbs served
with a pitcher of cream. This, by the way,
is a good way to use all crusts and broken
pieces of bread.

POP-OVERS—These are a delicate form
of breakfast muffin. Sift two cupfuls of
white flour with half a teaspoonful of salt.
Add gradually two cupfuls of sweet milk,
and beat until the batter is smooth; then

KUMISS.—A friend lately sent me the
following recipe for kumiss, which I
consider superior to the article by that
name for sale in drug-stores: Take a clean,
smooth granite kettle (one kept for this
use alone is best), put into it three quarts
of new milk, and heat gradually, stirring
frequently, until the temperature rises to
ninety-eight degrees, using a thermometer
to test it. Remove the kettle from the
fire, and add one cake of yeast dis-
solved in a little of the milk, and
three tablespoonfuls of white sugar.
Stir the milk well after adding these,
and seal up in bottles or pint jars. Keep
in a temperature of seventy degrees for
twelve hours, and then put in a cold place
as much longer before using. This makes
a very refreshing and nourishing drink
that the most delicate stomach can bear;
in fact, it is highly recommended by phy-
sicians for the use of patients suffering
from any gastric trouble.

OBEDIENCE.—I confess to being old-
fashioned enough to believe that children
should be taught to obey, and that a child
who habitually disregards his parents'
wishes has something lacking in his train-
ing. The training to obedience must be-
gin in infancy. As soon as a child is old
enough to understand its parents' words
it is old enough to be taught to obey. If
this is neglected, and the child left to its
own sweet will, or governed entirely by
coaxing and bribes, until it is five or six
years old, it will be a task indeed to
teach it to obey, a task at once fraught
with bitterness and pain to both parent
and child.

By obedience I do not mean that a child
should be ruled as with a rod of iron, and
not allowed to have any will of its own;
but with kindness and firmness his will
should be so trained that it will be in
subjection to himself. Children need the
tenderest and at the same time the firmest
guidance. The way is all new and strange
to them, and they must learn step by step
to discern between right and wrong. Be
patient, kind and tender, but withal firm,
and look constantly to the All-Father for
wisdom, seeking only to fulfil the sacred
trust with faithfulness and for the best
interests of the immortal souls intrusted
to our care and guidance, and after years
will not be filled with remorse and un-
availing regret.

MAIDA McL.

SHAMROCK DOILY.

ABBREVIATIONS.—D k, double knot; p,
picot.

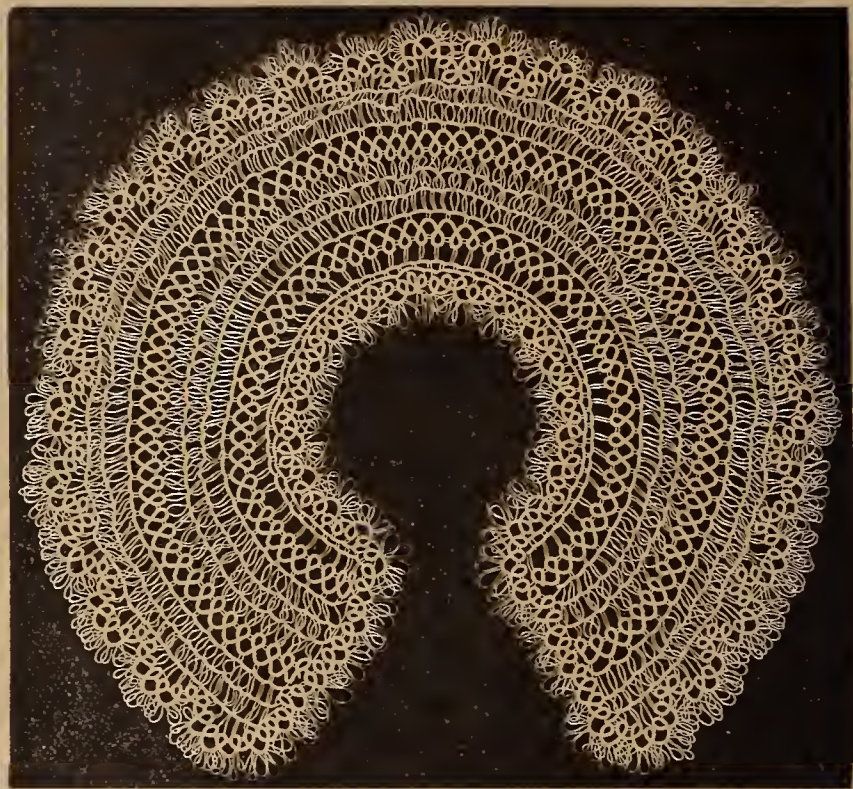
First row.—Make a ring of 7 d k, p, 3
d k, p, 3 d k, p, 7 d k, close; with two
threads * 5 d k, p, repeat three times, 5
d k; make a ring like one just described,

Make seven of these stars, one in the
center with six around it, joining at middle
p of cluster.

BORDER.—First row.—Begin at middle
ring of first of the two outside clusters;
with two threads 2 d k, p, * 4 d k, p, repeat
twice; 2 d k, join to next ring, 2 d k, p, * 4
d k, p, repeat three times; 2 d k, join to
first ring of next cluster, * 2 d k, p, * 4
d k, p, repeat twice from last star; 2 d k, join

sugar; in two muslin bags place one and
one half ounces of cloves and cinnamon.
Boil all until done, put in jars, and tie up.

SWEET WATERMELON-RIND PICKLE.—
Select a large fresh watermelon, remove
the green part of the rind, cut in two-inch
pieces, and boil until tender; drain from
the boiling water, and place in alum-water
(alum size of walnut in three pints of
water). Make a syrup of one pint of vin-



to next ring, repeat once from second star;
2 d k, p, * 4 d k, p, repeat three times;
2 d k, join to next ring, 2 d k, p, * 4 d k,
p, repeat twice; 2 d k, join to next ring;
2 d k, p, * 4 d k, p, repeat three times;
2 d k, p, join to next ring.

Second row.—Make ring of 5 d k, p, 5 d
k, join to first p of last row; with two
threads 3 d k, p, 3 d k. Continue around,
omitting the scallop between third and
fourth rings, doing this at every joining
of first row of border to clusters, except at
the middle rings of the two outside clusters
of center.

Third row.—Like second row of center of
doily, joining the clusters at middle p of
first and third rings, and the stems of 16
d k to each alternate p of second row,
but making a stem without a cluster in
center of each large scallop, and missing
two p of previous row; this to avoid full-
ness.

Fourth row.—With two threads joined at
middle ring of cluster, make 3 d k, p, *
5 d k, p, repeat twice, 2 d k, join to next
middle ring. Continue this pattern, but
making 2 d k, p, 2 d k between the clus-
ters where the extra stem is made.

Fifth row.—Ring of 5 d k, p, 5 d k, join
to p of last row; with two threads 5 d k,
p, 5 d k. Repeat, but making three rings
without a scallop between in the three p
between the large scallops of doily.

JULIA A. WILLIAMS.

TOOTHsome NEW ENGLAND RECIPES.

What is more exciting in its season than
the fruit-canning time, when one bustles
around in her preserving, canning and
spicing, to say nothing of the chilli sauce,
catchup and the many, many kinds of
table relishes? So I give here a number of
the most valuable recipes:

SPICED CURRANTS.—These are nice for
meats. Boil together for one hour five
pounds of currants, four pounds of sugar,
one pint of vinegar and two tablespoonfuls
of cinnamon and cloves; the two latter tie
in muslin bags during cooking. Keep in a
stone jar for two years, if not used up.

CURRENT JELLY.—Pick the fruit when
ripe (not dead ripe), and look over carefully;
cook fruit and stems, add no water, but
crush a little of the fruit, that it may not
stick to the kettle; cook slowly at first,
then bring to a fast cooking until soft;
strain, measure the juice, and after boil-
ing eight minutes add an equal amount
of sugar which has been thoroughly
heated in the oven; boil all eight minutes,
skimming as it boils. Put in glasses, and
tightly cover.

SWEET PICKLED PEACHES.—Take four
pounds of fine whole peaches, two pounds
of sugar, one pint of vinegar and a handful
of cloves; cook until tender, then can air-
tight.

SWEET PICKLE.—Core and halve one
half bushel of pears; add one gallon of
cider vinegar and six pounds of brown

egar and five cupfuls of sugar; boil well,
add the rind, and boil for twenty minutes,
putting a teaspoonful of cloves in the
syrup.

DAMSON PICKLES.—Four pounds of
plums, three pounds of sugar, one tea-
spoonful of sugar, one and one half tea-
spoonfuls of cloves, two teaspoonfuls of
mace, three teaspoonfuls of allspice and
one pint of vinegar; boil until thick, watch-
ing closely to keep from burning. It will
need to cook about two hours. This is to
be eaten with turkey.

SPANISH PICKLES.—One peck of green
tomatoes, four onions and four green pep-
pers; chop all together, and let stand over
night, draining the next morning; then add
one half cupful of salt, one ounce of cloves,
one ounce of allspice, one cupful of whole
mustard, two pounds of sugar, and enough
cider vinegar to entirely cover.

PICCALILLI.—No 1. Two quarts of to-
matoes, two quarts of cucumbers, one half
pint of peppers, one pint of onions; chop,
then put in stone jars with a cupful of salt
on them, and let stand twenty-four hours;
then while draining take two quarts of
vinegar and two cupfuls of brown sugar;
seal, adding a bag of all kinds of whole
spices; drain, and put back into chopped
mixture, and soak two hours.

No. 2.—One peck of green tomatoes,
twelve onions about the same size, three
green peppers, one head of cabbage; chop
fine, sprinkle with two cupfuls of fine table
salt, place in colander, or, better, in a large
coarse linen bag, tying them where they
can drain for twenty-four hours, then place
in largest jars; add one pound of brown
sugar, one red pepper (chopped fine),
one tablespoonful of whole cloves, two
tablespoonfuls of mace, one tablespoonful
of black pepper, one tablespoonful of all-
spice and one tablespoonful of celery-seed,
mixing the seasoning carefully with the
chopped mixture; now cover all with boil-
ing vinegar, and bottle in your jars. In
two weeks' time this will be ready to use,
and is an old and tried stand-by.

MUSTARD PICKLES.—Take equal parts
of cucumbers, tomatoes, onions (small
whole ones) and cauliflower; peel the on-
ions, cut the cauliflower into small pieces,
and slice the tomatoes. It is nice to have
a few whole onions such as you use for
preserves. Pour on boiling water, and let
stand over night, draining in the morning.
Take vinegar enough to cover well, allow-
ing one cupful of brown sugar to each
half cupful of flour, one tablespoonful of
turmeric and one fourth of a pound of
ground mustard to each pint of vinegar;
boil sugar and vinegar with small lump
of alum, make a paste of mustard, flour
and turmeric with cold vinegar; when a
smooth paste is made pour slowly into boil-
ing vinegar, place pickles in jars, and pour
hot vinegar over them.

OLD-TIME CUCUMBER PICKLES.—Make a
brine, and pour over cucumbers, allowing
them to stand twenty-four hours; take



add two well-beaten eggs and a teaspoon-
ful of melted butter. Bake in buttered,
stone china cups, filling them not more
than half full. Bake these cakes in a
quick oven, and they will rise to the tops
of the cups and pop over the edges, as
their name indicates. Do not use any bak-
ing-powder, and be careful to not bake
longer than until the cakes are a delicate
brown. Serve as soon as done.

joining at first p to last p of first ring.
Continue until you have a circle of six
rings and six scallops.

Second row.—Make a ring of 4 d k, p,
6 d k, p, 6 d k, p, 4 d k, close; make three
of these rings, joining at first p, drawing
close together to form a cluster. With two
threads 16 d k, join to middle p of scallop,
16 d k, another cluster of three rings. Con-
tinue around, making a star of six points,

enough vinegar and a little water to cover them, scald, and let remain twenty-four hours. Turn this all off, pack cucumbers in stone jars, pouring over them good, pure, boiling hot cider vinegar, and add whole pieces of horse-radish and a few bits of alum. This will keep for a year.

CHILLI SAUCE.—Use eighteen large ripe tomatoes, two onions, four peppers, chopped fine, four cupfuls of vinegar, two tablespoonfuls of salt, four tablespoonfuls of sugar, two tablespoonfuls of ginger, two tablespoonfuls of cinnamon, two tablespoonfuls of cloves, one tablespoonful of allspice, one nutmeg; boil one hour, and can air-tight.

TOMATO RELISH.—Made from canned tomatoes. One quart of canned tomatoes, a small piece of onion, eight whole cloves, six peppercorns, two tablespoonfuls of butter, two tablespoonfuls of flour; place butter and flour in frying-pan, adding a little tomato at a time; season with salt and pepper, and cook twenty minutes.

PICKLED CAULIFLOWER.—Cook cauliflower until tender, salting the water when partly done; when done drain, and pack in a stone jar.

Dressing.—Mix two thirds of mustard and one third of sugar with enough vinegar to form thin batter; pour enough on the cauliflower to cover. B. K.

TATTED COLLAR.

ABBREVIATIONS:—D k, double knot; p, picot.

First row—Make a ring of 5 d k, p, 5 d k, p, 5 d k, p, close (all middle picots are long), with two threads, 6 d k, p, 6 d k. Continue until there are fifty-six rings (all rings are made alike), or more, if a larger collar is desired.

Second row—Fasten thread in p of scallop, 1 d k, p (all picots are long in second, third, fourth, sixth and seventh rows), 4 d k, p, 1 d k, join to next scallop; repeat.

Third row—Join at first p; * 1 d k, p, 4 d k, p, 1 d k, join to next p; 3 d k, p, 3 d k, join to next p; repeat from beginning.

Fourth row—Join at first p; * 1 d k, p, 4 d k, p, 1 d k, join to next two picots (forming clusters through the row); repeat from *.

Fifth row—Like first row, joining the ring at middle p to second p of fourth row.

Sixth row—Like second row.

Seventh row—Like third row.

Eighth row—Like third row, except that the picots are graduated as follows to form a scallop; first p is small, increasing in length until the fourth is as long as those in preceding rows; decrease from this until there are seven picots. Repeat from beginning.

Ninth row—Make a ring, joining at first p to first p of last row, second p to next loop, finish and close; with two threads 6 d k, * make another ring, joining at first p to last p of previous ring, the next p to third p of eighth row; finish the ring, close; with two threads 2 d k, p (long);

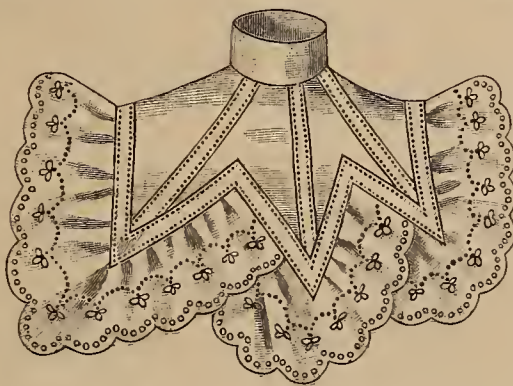
join to next loop, continue to end of row. Fasten thread in first p of row just made, repeating the pattern.

For border for neck and across ends, with two threads joined at base of first ring of ninth row, make a scallop of 2 d k, six long p, a ring joined at first p to this same first ring, join at middle p to long loop of seventh row, finish and close; 6 d k with two threads, another ring joined to one preceding and to same long loop; repeat this pattern across the end, joining the rings to collar in such a manner that the work will be smooth. After turning the corner, to avoid fullness make two rings, drawing them closely together after each 6 d k, each ring in this row being joined at middle p to p of collar. The collar should be made of fine thread; No. 36 is used in the illustration.

JULIA A. WILLIAMS.

A CHAPTER ON MEATS.

It seems to be the prevailing opinion among housekeepers that the cheaper portions of a piece of beef must be relegated to the soup-pot. This is a mistake, as they thereby lose some very toothsome dishes. The flanky parts and shin excepted, the inferior cuts make good roasts; but those who like meat rare must in this instance choose to eat it well done. The secret of rendering the tougher pieces tender is long, slow cooking in a covered pan in the oven. If one has no regular roasting-pan, two biscuit-pans may be utilized. Season the meat as usual, pour boiling water well up around it, cover, and let cook from three to five hours, depending on the size.



The oven should not be very hot until at the last. What water remains in the pan may be thickened for gravy or transformed into soup by the addition of a scant cupful of rice an hour before using. More water, or, better still, milk and water, may then bring it up to the proper quantity, after the meat has been removed and the surplus grease skimmed. To tickle the palate still further, when the meat begins to stick tender, pour off the water and in its place put the following mixture:

One and one half pints of milk, one generous pint of bread-crumbs, two beaten eggs, a little chopped suet, one cupful of raisins and a pinch of salt. Raise the roast above this by means of a wire toaster or three small sticks laid across the top of the pan. Increase the heat, let the pudding bake until crisp and brown, cut in squares, and serve around the meat. This is good eating indeed, but some may prefer the genuine Yorkshire pudding, which is made as follows: One and one half pints of milk, two, or if they are plentiful, three eggs, one half teaspoonful of salt, one teaspoonful of baking-powder, and flour enough to make a rather stiff batter. Put this in one end of the pan when the meat is nearly done. Have the oven hot, and bake one hour. Cut in squares, and garnish the roast with them. Thicken the gravy, and serve with the pudding.

The breast of veal makes a good roast, stew or pie. If desired for roasting, make a pocket in it and stuff same as for poultry. Those who have never tried a shoulder of lamb or mutton have no idea of its superiority over the leg for roasting. The English, who know all there is to know about sheep, give it the preference always. Have the butcher bone it for you, which leaves a pocket to be filled with dressing.

The breast of lamb boiled till the bones will slip out, then lightly browned on a hot skillet, can be served with a sauce

of stewed tomatoes, mashed, thickened with a small quantity of flour, and a few sprigs of parsley.

BARBECUED HAM.—Cut raw ham in slices, pour boiling water over them, then fry. When done, pour into the grease one half a teaspoonful of vinegar to each slice, one fourth of a teaspoonful of made mustard in the same proportion, one tea-



spoonful of sugar, and pepper to taste. Let boil up once, then put over the meat.

Suet may be quickly prepared by sprinkling with flour and pressed with the rolling-pin until it crumbles. It will need little, if any, chopping.

Roast beef calls for horse-radish or made mustard; roast mutton for currant jelly; roast pork for apple sauce; roast lamb for mint sauce. MARY M. WILLARD.

CHILDREN IN AUGUST.

August seems the most trying month of the twelve for little children—chilly nights after hot days—and if one is obliged to stay in town during this month, all comforts imaginable must be prepared for the babies. If mothers would only be more careful as to their eating—so much pain comes from eating unripe fruit, and children, both large and small, crave green fruit.

A lady who has made this a study said all children under four years of age should wear light all-wool flannel next to the skin, especially during August and September; on teething babies, woolen socks, although it's just the style for the baby to go bare-footed until six or eight months old.

When your little one shows the slightest symptoms of the dreaded summer complaint, do not run for the doctor and dose baby with medicine, but give a simple diet of pure fresh milk in which you have put a teaspoonful of lime-water to every tumblerful. When diarrhea is accompanied with pain, lay a flannel cloth wet in hot whisky on the stomach, to keep in the heat. Almost all simple cases may yield to the applications of this simple home remedy. Rice-water is also helpful, and is made thus: Boil a tablespoonful of rice and a quart of water three hours; strain and sweeten. Nearly all children are very fond of sweets, and if mothers would give stewed fruits and less candies there would be less poor teeth. A mild home-made marmalade is good at breakfast, also a very little new honey. If children will have candy, then teach them to eat only pure candy, such as rock-candy, old-fashioned lemon and peppermint stick; but they will thrive best of all on figs, dates, stewed prunes, simple rice pudding, custards and baked apples. B. K.

FANCY COLLARETTES FOR YOUNG GIRLS.

The fancy collarettes of lawn, linen, embroidery and lace are as popular as ever this season, and even prettier than last year. They are not restricted to any particular size and shape, and can be made to suit the individual taste.

The illustrations herewith have been selected from the stock of one of New York's largest stores as being specially pretty.

Fortunately, these collarettes are not difficult of home manufacture, and many a remnant of fine white goods and embroidery not large enough for anything else can be utilized to good advantage in making one of these pretty collarettes.

EMMA LOUISE HAUCK ROWE.

"So far I have sold Peerless Atlas to nine persons out of every ten that I have canvassed," says Mrs. Viola A. Siemer, Los Angeles, Cal., "and am absolutely certain I can nearly or quite maintain that rate throughout. I need 30 Atlases immediately."

Especially in serious cases of cold, or in the absence of the doctor, you want a medicine which you know is right. That's Jayne's Expectorant.

There is as Much....

.....difference in wheat as in potatoes.

The wheat used in the manufacture of



is not selected from its looks—it's analyzed.

We don't guess at its health-giving qualities, we test it.

Everybody likes it because it is palatable and satisfying.

If your grocer does not keep it, send us his name and your order—we will see that you are supplied.

Made only by the
FRANKLIN MILLS CO.,
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SEND US ONE DOLLAR

AND THIS AD. and we will send you this BIG 300-pound new RESERVOIR STOVE

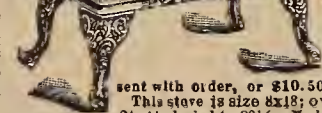
by freight C.O.D., subject to examination, examine it at your freight depot, and if found perfectly satisfactory, and the GREATEST STOVE BARGAIN you ever saw or heard of, pay the freight agent Our Special Price, \$11.50, less the \$1 sent with order, or \$10.50 and freight charges.

This stove is size 24x18; oven is 18x17x11; top, 24x14; height, 28 1/2. Made from best pig iron, large flues, cut tops, heavy out centers, heavy corners, heavy linings, with very heavy sectional fire-back, large balled ash pan, slide hearth plate and side pocket shelf, pouch feed, oven door hanger, heavy tin-lined oven door, handsome nickel trimmings on doors, front, sides, etc. Extra large, deep, porcelain-lined reservoir. Best Coal Burner made, and we furnish an extra wood grate, making it a perfect wood burner.

WE ISSUE A BINDING GUARANTEE with every stove. Your local dealer would ask at least \$20.00 for such a stove; order this and you will save at least \$8.00. The freight is only about \$1.00 for each 500 miles.

Our New Free Stove Catalogue Shows the most complete line of 1899 stoves, ranges and heaters at \$1.95 and up. THIS NEW BIG 300-POUND ACME QUEEN RESERVOIR COAL STOVE at \$11.50, one dollar with order, is a wonder of value. Order at once before our stock is sold. Address, SEARS, ROEBUCK & CO., Cheapest Supply House on Earth, Fulton, Des Moines and Wayman Sts., CHICAGO, ILL.

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Our Household.

PRACTICAL HINTS ON OUTDOOR SKETCHING.

It is my wish to give, in the scope of a short article, a few practical suggestions on outdoor sketching, which may be taken as a guide by the student who is trying to help himself.

First, a word as to an outfit. Use the best standard water-color paints, selecting only a moderate palette—two blues, Prussian and indigo, chrome yellow and yellow ochre, Nos. 1 and 2 greens, a carmine and a burnt and raw sienna. With these colors as a basis you can make almost any color you will need at first. A larger palette is very confusing, so it is as well to have fewer paints to handle. Several brushes come with the outfit, but they are of indifferent quality. A good brush is a necessity. I have been using for several years a quill-handled camel's-hair brush, for which I paid fifty cents; this for broad flat washes and several smaller ones for the lighter touches will make a good assortment. A pad nine by twelve inches, of Whatman's medium sketching-paper, a clean white rag, small sponge, a bottle of water, as there may not be any near at hand, thus putting the student to great inconvenience, and also a mat with an opening possibly six by nine inches are needed. An improvised one cut from a cardboard box will answer the purpose. Put the above articles in your portfolio and you are ready to begin the work of sketching.

Now don't make the mistake of many amateurs, and tire yourself out by going a long way after some grandly picturesque thing that is entirely beyond you; there are always things near at hand that may be studied to advantage; but take great care when making your choice, do not, in your zeal to begin, choose a subject which does not especially attract you, for in that case

through accident or lack of skill, be a streaked appearance, take your sponge, well dampened, not wet, and gently wash over the whole surface, after which repeat the first process.

Treat your furthest distances with purples, middle distances with blue-greens laid on with flat, simple washes, and above all, paint things as they look through the half-closed eyes, not as you may happen to know they are. A tree is made up of numberless branches and leaves, but all you can see are the lights and shadows in a mass. Avoid working one shade over another; a muddy appearance is apt to result; but rather look carefully at the landscape, and then select your color, simplicity being an excellent rule. Red, yellow and blue, with their graduations, are ample for the treatment of any subject, and experience has taught me that five colors, if thoughtfully selected, produce a more brilliant effect than a greater variety. Think nothing too small for consideration that has to do with the form and color of your sketch; it is the slight bend in the stream, the tiny patch of light shining through the trees, the particular shape and shade of the branch that is silhouetted against the sky. These details carefully studied and truthfully reproduced make or mar your picture.

At the end of several hours you will probably be a very discouraged young person, for when you glance at the beautiful study nature has set for you, and then at your unsightly reproduction, you will doubtless have cause to be disheartened. But do not despair; take your sketch home and turn the water on it. After it is thoroughly soaked, use your sponge again, and very daintily, or the texture of your paper is spoiled. Soften a hard line here and there, or if it should seem necessary, gently sponge the whole sketch; then before it is thoroughly dry accentuate your shadows by the judicious use of purplish grays, and your highest lights by Chinese white, used most sparingly.

After this treatment, what may have looked like an unsightly failure while out of doors, in the more tempered and kindly light of the studio or home will be most pleasing. ALICE WINWOOD ANTHONY.

BATTENBERG WHEEL.

This wheel is made of the plain hemstitched braid in any width, and can be used in many ways. Twelve of the wheels sewed to a square of hemstitched linen, with fancy stitches in the spaces, will form a handsome centerpiece. One thing in favor of this design is that it can be made to fit any sized center. If made of the narrow braid, they are beautiful to use in groups for the ends of bureau-scarfs. They form a handsome collar for a child, by basting them upon a thick paper collar pattern, letting a row of the braid form the neck of the collar, and connecting the whole with any desired lace stitches.

MAY LEONARD.

FOR WINTER USE.

JELLIES.—I do not think that all fruit-juices are suitable for making perfect jelly. Some are lacking in pectin, the element necessary to make the juice jelly. Lemon-juice added will sometimes supply this deficiency. Again, a little dissolved gelatin will often cause the desired effect to be produced. However it is made or out of whatever fruit, jelly made from juice that is strained without any pressure is the finest in flavor and clearest in appearance. For straining, take a yard of fine cheese-cloth, tie the diagonal corners together, pour in the juice, and hang it in any way that your ingenuity may suggest, over a bowl, and let it drain. A long hook is convenient, or a nail driven in the under side of an old chair-seat, and the bowl or crock placed on the floor underneath, will do, or else a stick between two chairs. Do not boil the sugar long with the juice. Choose a sunny day for making it; the results are more satisfactory.

PLUM JELLY.—Cook the fruit slowly, then turn into the jelly-bag, and allow it to drip thoroughly. Then boil the juice for twenty minutes. Take it from the fire, and add as many cupfuls of sugar as there are cupfuls of juice, and boil again until it jells; that is, drips from the spoon in drops. About twelve or fifteen minutes will be sufficient for this. The tumblers should have been previously rolled in hot water and placed in a pan containing about an inch of hot water, to prevent breaking. Pour your jelly in these, stand aside for



Among people where the practice of economy is a necessity, the buying of soap is an important yearly item. The grocer who has an eye to larger profits, may not suggest Ivory Soap. He will recommend nothing else if he is conscientious. Ivory Soap is a pure soap, all through. That makes it the most economical and best. A perfect soap for the toilet and laundry.

IT FLOATS.

A WORD OF WARNING.—There are many white soaps, each represented to be "just as good as the 'Ivory'"; they ARE NOT, but like all counterfeits, lack the peculiar and remarkable qualities of the genuine. Ask for "Ivory" Soap and insist upon getting it.

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you cannot work whole-heartedly upon it. Take out your mat, thus putting a frame to your sketch; it will be found a decided advantage to the beginner to thus limit his scope, otherwise he will be trying to put the whole country side upon his small sheet of paper. Select some simple thing, say a stretch of meadow, with its bit of worm-fence and some woods purpling in the distance; then with your mat used as a frame make your sketch.

First of all watch your spaces; by that I mean, do not have a tree directly in the center of your study, thus dividing your picture in two; you do not wish it to be considered in halves, but as a whole; be careful the way objects are lined against the sky, avoiding monotony. After the sketch is lightly suggested with a pencil, the shapes and positions of things carefully noted, you are ready for the color-box.

First saturate your sponge and moisten all of your colors; it is most annoying to have to stop and soak a refractory color when it is wanted at once. Load your brush with water, using comparatively little paint, and on dry paper lay in your sky. If it is to be a strong clear blue use Prussian; if pale, ultramarine. Hold your pad so that the water will flow nicely, begin at the upper left-hand corner, and with broad even strokes wash in your color, not at any time letting the paint dry before the horizon is reached, as a hard line will be the result. When there are to be clouds, wipe out the blue with a perfectly clean brush, thus avoiding, when possible, the use of opaque colors, as they tend to deaden the brilliancy of your picture, thereby destroying one of the chief charms of water-color.

If the first wash is too light, carefully brush a second over it; then should there,

two days, in a dry place or in the sun, then cover with a soft paper cut to fit inside the glass, and put on the tin covers. Other jellies are made in much the same way as this.

TOMATOES.—August is usually the best month in which to can tomatoes, for a frost-bitten tomato will not keep. Do not depend on bought canned tomatoes; they are not nearly so healthful or good. Some prefer to place them whole in the jars, cover with cold water, and place in a boiler, as before spoken of; but the more general way is to peel and cook them. They peel very easily if scalded first; this is done by pouring boiling water over them or by immersing them in a kettle of boiling water. (A wire frying-basket is convenient for this purpose.) After skimming them, cut out the hard core and put on in a granite pan to cook. They will keep if boiled but a few moments, but it is rather more satisfactory to have them boiled down more nearly ready for the table. A pinch of salt should be added to each canful.

Another method is to boil down until quite thick, then season for the table with one teaspoonful of salt, half as much pepper and half a cupful of sugar to each quart. Fill the jars almost full, adding melted butter to the top.

GREEN TOMATO PRESERVES.—Three fourths of a pound of sugar to a pound of fruit is required. Quarter the tomatoes, and slice a lemon. Put all together, and cook gently until done; then can.

PRESERVED RIPE TOMATOES.—To a pound of tomatoes and one lemon take one pound of "C" sugar. Prepare the lemon as for cake; make a syrup of the sugar, using as little water as possible, and skim thoroughly. Put in the tomatoes carefully, then when all has boiled up for a moment set on the back of the range and allow to cook slowly for three quarters of an hour. These preserves will be found to be very delicious.

Did you ever keep whole tomatoes for your winter use? If not, try my way this winter. See to it that the tomatoes are perfectly sound and not too ripe. A stone jar is best in which to put them. First put in a layer of tomatoes, then a very thin sprinkling of sugar; then scatter about one dozen cloves on the sugar, and add another layer of tomatoes and sugar, and

again sprinkle the cloves; continue in this way until the jar is almost full. Cover with cold water and vinegar, "alf and 'alf," then put a double piece of flannel over all, allowing the edges to fall inside and be tucked down into the vinegar. Cover the jar with thick brown paper, and tie down closely.

PICKLES.—The best cider vinegar should be used, if it can possibly be obtained. It is usually so strong that it should be diluted about one third with water. A little pinch of alum will make the pickles crisp, while horse-radish prevents the vinegar from becoming moldy.

The old-fashioned method of keeping all kinds of pickles, chow-chow, etc., in stone jars with a plate over them, to keep them under the vinegar, while it will "do," is not nearly so satisfactory as sealing in glass jars.

PICCALILLI.—Chop one scant peck of green tomatoes and a medium-sized head of cabbage as fine as you desire, add a cupful of salt, mix all thoroughly, place in a cheese-cloth bag, and allow to drain all night. In the morning chop five large onions, three green peppers and a little horse-radish; add to the tomatoes and cabbage, pour over enough weak vinegar to cover, and allow to drain once more. The next morning cover with good, sharp, hot vinegar, add two tablespoonfuls of mustard-seed, and put in glass jars and seal. This is delicious.

CHOW-CHOW.—This requires two heads of cauliflower, two heads of cabbage, a gallon of string-beans, three quarts of green tomatoes, four quarts of tiny cucumbers, and the same amount of little onions. Chop the cabbage, but not finely, break the cauliflower into its component parts, mix all, and stir throughout the whole a quart of salt. Let stand in a stone jar over night. In the morning pour cold water over, and drain; repeat the process, and drain again; even a third bath will not be too much. Then stir into the mixture already prepared two ounces of white mustard-seed, two and one half ounces of celery-seed and two heaping tablespoonfuls of ground mustard. Cover with vinegar, and boil thirty minutes. Just before taking from the stove pour in half a pound of sugar. This will keep without sealing, but is better sealed.

ELLA BARTLETT SIMMONS.

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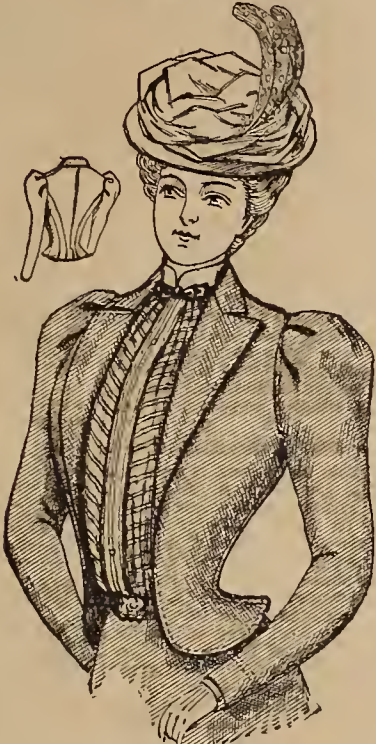
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No. 7435.—LADIES' BASQUE. 10 cents. Sizes, 32, 34, 36, 38 and 40 inches bust.



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No. 7249.—LADIES' BASQUE. 10 cents. Sizes, 32, 34, 36, 38, 40, 42 and 44 in. bust. No. 7236.—LADIES' SEVEN-GORED SKIRT. 11c. Sizes, 22, 24, 26, 28, 30 and 32 in. waist.



No. 7423.—LADIES' GUIMPE WAIST. 10 cents. Sizes, 32, 34, 36, 38 and 40 in. bust.



No. 7420.—MISSSES' WAIST. 10 cents. Sizes, 12, 14 and 16 years.



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No. 7321.—LADIES' HOUSE GOWN. 11c. Sizes, 32, 34, 36, 38, 40 and 42 inches bust.



No. 7407.—GIRLS' COSTUME. 11c. Sizes, 6, 8, 10, 12 and 14 years.

No. 7251.—GIRLS' COSTUME. 11c. Sizes, 8, 10, 12 and 14 years.

Our Sunday Afternoon.

BATTLE-HYMN OF THE REPUBLIC.

Mine eyes have seen the glory of the coming
of the Lord;
He is tramping out the vintage where the
grapes of wrath are stored;
He hath loosed the fateful lightning of his
terrible swift sword.
His truth is marching on.

I have seen him in the watch-fires of a hun-
dred circling camps;
They have builded him an altar in the eve-
ning dews and damps;
I can read his righteous sentence by the dim
and flaring lamps.
His day is marching on.

I have read a fiery gospel, writ in burnished
rows of steel;
"As ye deal with my contemnners, so with you
my grace shall deal;
Let the hero, born of woman, crush the ser-
pent with his heel,
Since God is marching on."

He hath sounded forth the trumpet that shall
never call retreat;
He is sifting out the hearts of men before
his judgment-seat;
Oh, be swift, my soul, to answer him! Be
jubilant my feet!
Our God is marching on.

In the beauty of the lilies Christ was born
across the sea,
With a glory in his bosom that transfigures
you and me;
As he died to make men holy, let us die to
make men free,
While God is marching on.
—Julia Ward Howe.

THE MOTHERS OF OUR PRESIDENTS.

DR. TALCOTT WILLIAMS, of Philadel-
phia, has made an interesting
summary of the lives of the moth-
ers of our presidents.

Eleven of them, or nearly half of the
number, were in easy circumstances, be-
longing to the families of education and
gentle breeding; the other half of the num-
ber struggled with poverty and hardships
more or less severe. The lives barest of
comfort or softness were probably those
of Jackson's and Lincoln's mothers, who
were pioneers in the West, and literally
struggled for the necessities of life.

Some of these women were unlettered,
and perhaps narrow and bigotted. Some
were of the fairest fruits of American civ-
ilization. But Dr. Williams calls attention
to the momentous fact that all, without
exception, were godly and devout women.

"No American," he says, "has become
president without the memory of the pray-
ers he lisped at his mother's knee. Not a
president but has left somewhere on record
his testimony to the refining and religious
influence of a Christian mother."

He notes, also, the significant fact that
all the presidents of the United States have
avowedly owed more to the influence of
their mothers upon their lives than to that
of their fathers. More than half, indeed,
were left fatherless in boyhood.

The conclusion to be drawn from these
significant resemblances in the lives of the
presidents is that the qualities given to a
man by the love and daily training of a
sincere, God-fearing mother are those
which command the trust of other men.
The nation has not, perhaps, chosen its
most brilliant, or possibly its most able
men to be its chief rulers. But it has
never chosen a man, from Washington to
McKinley, whom the majority of the peo-
ple did not believe to be honest in char-
acter.

The "higher education" which the moth-
ers of our future presidents are receiving
to-day will enable them to give their chil-
dren a broad culture along lines of mental
acquirement which Mary Washington and
Nancy Lincoln never heard or dreamed.
But let them not ignore the honesty and
simple religious faith which these women
gave to their sons, and by which they
were made steadfast in principle, and held
the confidence of the country in its hours
of direst need.—Youth's Companion.

CARE OF THE EYES.

This is a day when the delusions to
which one has held for years are gradually
being swept away by those "who know." One
such delusion in which we all once
believed was that to read while in a re-
cumbent position was injurious to the
eyes. Oculists now tell us that if the light
be good and the type of the printed page
clear we may safely indulge in the luxury
of lying down and reading at the same

time. But while our oculist tells us this,
he also warns us that we may not use our
eyes before breakfast, as the strain on the
optic nerve will seriously affect the sight.
So she who would read before she rises in
the morning must have her cup of coffee
and a roll or slice of toast brought to her
bedside.

Unless one has unusually strong eyes one
must not read when one is extremely
weary. Exhaustion and fatigue affect all
the nerves of the body, and the optic nerve
is so sensitive that it should receive partic-
ular consideration. Nor should one ever
be guilty of the carelessness of reading or
writing facing a window. This, too, is a
cruel strain on the sight.

Washing the eyes morning and night in
water as hot as it can be borne is a
wonderful tonic for those useful servants
which are so easily injured. When we
consider how we neglect their welfare by
using them by fading daylight and in-
sufficient artificial light, by forcing them
to do work when they are weary, and by
denying them the rest for which they long,
we have cause to wonder not that they
sometimes become mutinous and refuse to
fulfil our demands, but that they are ever
faithful in our service. They will, as a
rule, be as good to us as we are to them.—
Harper's Bazar.

ANGER AND WEAKNESS.

The man who gives way to anger in his
own behalf is pretty sure to be a weak
character. He who is thrown into an un-
governable passion, when things do not
turn out as he hoped they would, thereby
shows that he is not equal to the situation.
His exhibition of anger is an unconscious
confession of his personal weakness. The
strong, brave man looks the disappoint-
ment in the face and is calm. He expects
to surmount the obstacles before him, and
to recover himself out of his misfortune.
But the man who storms and raves, there-
by makes it evident that he lacks confi-
dence in himself, and that he can only
vainly talk against the circumstances
which he feels unable to master.

A man in an angry passion rarely accom-
plishes anything, except such things as he
is afterward sorry for. Almost every-
where displayed anger is a hindrance to
success. It throws the mind into confu-
sion; it overheats the whole nature and
prevents the best work which the faculties
might do. An easy and habitual yielding
to the passions of anger is fatal to that
coolness of judgment and calmness of
temper which are indispensable qualities
of strong characters and truly successful
lives. Select out of any community the
hot-headed men who are frequently raving
at events and berating their fellow-men,
and you select the essentially weak men,
who neither win great respect nor carry
great weight in the community. "Anger
resteth in the bosom of fools."

DON'T BROOD OVER TROUBLE.

When trouble comes it is folly to sit
down and brood over it. No situation was
ever improved in that way. Great emer-
gencies call for great strength of spirit and
for great activity. The harder the pressure
the more is the reason why you should
play the man. If you once give up and
waste in idle repining the energy that
ought to be spent in courageous effort,
then you might as well die. Your case,
let it be as difficult as it may, is no worse
than that of thousands of others who have,
nevertheless, kept a stout heart and won
the day. God is simply putting you to the
test in order to determine the quality of
your manhood. He has no evil designs
against you. All that he sends or suffers
to come will turn out for your good, if you
will only accept it in the right spirit.—
Nashville Christian Advocate.

A PROSPEROUS PEOPLE.

SOUTH DAKOTA FARMERS ARE OUT OF DEBT.
They will be lending money to Eastern farm-
ers within a year. Don't stop to sell your
old worn-out farm. Let the mortgage take it.
Go to South Dakota and buy a rich black loam
prairie farm for cash or on crop payment plan.
No hills, no stones, no stumps. Good schools,
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kee & St. Paul Railway write to H. F. Hunter,
Immigration Agent for South Dakota, 291
Dearborn Street, Chicago, Ill., or Geo. H. Heaf-
ford, General Passenger Agent, Old Colony
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Size, 20x49 inches. Printed in 15 colors on heavy plate paper.



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Painted by FRANK H. SCHELL,

and BATTLESHIP "IOWA,"
The Pride of Our Navy,
Painted by FRED. PANSING.

Either picture sent postpaid on receipt of 25c in stamps, or both pictures on receipt of 40c in stamps.

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Thousands of Female Sufferers Asking
for the Free Packages Distrib-
uted by Mrs. Worley.

Any Woman in the Land Has But to Send Her
Name to Freely Obtain This
Priceless Boon.

The enormous demand for the Free Pack-
ages of the Great Female Discovery made
according to the formula originated by Dr.
Erastus Baum, of Berlin, is growing daily.
The original stock secured by generous Mrs.
Worley for Free Distribution has been entire-
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supplement it by several additional thousand
packages, so that all who are suffering can now
obtain speedy cure by simply sending name
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Many physicians whose skill has failed to
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male Weakness of all kinds are now adopting
Doctor Baum's system in their daily practice
with the most gratifying results, and it is a
fact that there has never been a failure to
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Those who desire the confidential advice of
a woman who has suffered and been cured by
this wonderful specific should write to Mrs.
Worley at once, and receive the Free Medicine
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learned physicians in America and Europe.

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"After I was induced to try CASCA-
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My liver was in a very bad shape, and my head
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Mr. Tussel made \$1500 first 5 months. Mr. Muncey, of Tex., \$1250 first two hours. \$200 first month. Mr. Smith, of Colo., \$295 first month. Mrs. Howard, \$59.50 in one week. Mr. Beard, \$400. Miss Nesne, \$205. Agents all making money, showing, selling and appointing agents for our patented Quaker Polishing Bench Cabinet. LET US START YOU. Any one willing to work, can make \$20 to \$10 a week easy. The Quaker is the greatest seller and money-maker for agents known. Just what every body needs. No more bath tubs or Dr. bills. Guaranteed best made. Lowest price. Wt., 5 lbs. Easily carried. We are reliable. Capital \$100,000. Largest MFG. Co. Write us anyway for New Plan, Terms, Pamphlets, Testimonials, etc., FREE. O. WORLD MFG. CO., Cincinnati, O.

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30 days in your own home before paying one cent in advance; shipped anywhere, to anyone, for 30 days' test trial. We risk you. \$60 White Star Machine, \$22.00. \$50 Pearl Machine, 18.00. Standard Singers, \$9, \$12.50, 16.00. Full set of attachments free; buy from factory and save \$10 to \$15. WE PAY FREIGHT thousands in use; catalog, showing 20 other styles, free. Each machine guaranteed 10 years. Consolidated Wholesale Supply Co. Address (in full) Dept. 91 216 S. Clinton St., Chicago, Ill.

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Anyone may become a Hypnotist and exert a magic influence over others by my Wonderful Hypnotic discovery! Quickest and surest method, by which you can Hypnotize quick as a flash and entertain your friends by the hour with side-splitting exhibitions, also cure disease, correct bad habits, and cause others to think, act and feel as you desire. Makes happy homes. Gratifies your ambitions. Insures success in life. I positively guarantee your success. Large elegantly illustrated lesson, postpaid, 10c. Send to-day. Address, Prof. J. R. HERRIN, Hypnotist, Masonic Temple, Dept. 31, Decatur, Ill.

1,000 AGENTS WANTED—To sell "The Handy War Book," a new book of important and authentic information and statistics on the many subjects relating to the present war. It contains Pictures of U. S. War Vessels and a classification of the ships in the navies of Spain and America, with definitions of naval terms used in press dispatches; also Fine War Maps of Cuba, Porto Rico, Havana and Harbor, the West India Islands, the Philippines, and a large map of the World. You can easily make from \$3.00 to \$10.00 a day. Address FARM AND FIRESIDE, Springfield, Ohio.

WORKERS WANTED

AT HOME (whole or spare time) to color photo-
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A harbinger of good fortune and a dispeller of evil, made from a genuine Horse Shoe Nail, nickle-plated and finely finished, sent free with our new mammoth catalogue of over 3,000 Bargains for 6c. to cover postage. R. H. Ingersoll & Bro. Dept. 16, 67 Cortlandt St. N.Y.

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Send us your address and we will show you how to make \$3 a day absolutely sure; we furnish the work and teach you free; you work in the locality where you live. Send us your address and we will explain the business fully, remember we guarantee a clear profit of \$3 for every day's work, absolutely sure, without once. ROYAL MANUFACTURING CO. Box 114, DETROIT, MICH.

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A new line of Agency Work for either sex, easy and extra profitable; we give special advantages. Send for terms and Free Outfit. MAST, CROWELL & KIRKPATRICK, SPRINGFIELD, OHIO.

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in working for me. Ladies and gentlemen, this is your great opportunity. OUTFIT FREE. Are you ready? Workers write at once to E. HANNAFORD, Springfield, Ohio.

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RUBBER GOODS of every description. Cat'g free. Edwin Mercer & Co., Toledo, O.

WRITERS WANTED to do copying at home. Law College, Lima, O.

It cures SORE EYES. Dr. ISAAC THOMPSON'S EYE WATER

Smiles.

HE KNEW OF BUT ONE.

A COUPLE of years ago De Scott Evans, the artist, took a trip to Jamaica, and upon his return to New York he exhibited a number of pictures that he had painted during his outing.

One day a man who had been looking through the studio stopped before a certain picture and asked:

"What does this represent?"

"That," said Mr. Evans, "is a scene in Jamaica."

"Jamaica?" echoed the visitor. "That's strange. I don't remember ever seeing anything like that in Jamaica."

"You have been there, then, have you?" the artist inquired.

"Oh, yes! I live there."

"Well, you surely must be acquainted with this place, then. It is a street scene in the principal town of the island."

The man from Jamaica looked at Mr. Evans for a moment as if he thought the latter must be daft. Then he emphatically declared:

"I live in Jamaica, and there isn't a street in the town that bears the remotest resemblance to that picture."

The mention of Jamaica as a town cleared away the mist.

"I see," said Mr. Evans, "you live in Jamaica, New York, don't you?"

"Yes," replied the suburbanite. "Is there another Jamaica anywhere?"—Cleveland Leader.

QUAINT BIT OF FLATTERY.

A great military authority said: "There are no had regiments, but only had colonels." There is abundant proof that Napoleon's belief is shared by the rank and file of soldiers, but this fact could not be more happily illustrated than by the following story, taken from the London "Illustrated News," of a quaint compliment paid to the German crown prince, afterward Emperor Frederick:

After the battles of Weissenburg and Worth, which he had won, the crown prince was sauntering along one evening past a barn occupied by a party of Wurtemberg troops. Hearing something like stump oratory going on, the prince opened the door and looked in. Every one rose.

"Oh, sit down! I'm sorry to disturb. I dare say there's room for me to do the same," said the prince. "Pray, who was making a speech?"

All eyes were turned on a sergeant, whose intelligent countenance looked, however, sorely puzzled when the commander-in-chief asked:

"And what were you talking about?"

Quickly recovering his presence of mind, the sergeant confessed:

"Well, of course, we were talking of our victories, and I was just explaining to these young men how, four years ago, if we had had you to lead us, we would have made short work of those confounded Prussians!"

KNEW WHAT HE WANTED.

Customer—"I want some kind of a door-spring, one that won't get out of order."

Hardware dealer—"A door-spring?"

Customer—"Yes, and one that won't require the strength of an elephant to open."

Dealer—"Hem!"

Customer—"And yet it must be strong enough to bring the door all the way to and not leave it swinging a couple of inches."

Dealer—"I see."

Customer—"And when the door closes I don't want it to ram shut like a catapult, with a jar that shakes the house from its foundations."

Dealer—"Yes. You want one that will bring the door all the way to and yet do it gently."

Customer—"That's the idea. But I don't want any complicated arrangement that requires a skilled mechanic to attend it."

Dealer—"No, of course not. You want something simple, yet strong and effective."

Customer—"That's the talk; something that can be put on or taken off easily, something that will do its work quietly, yet thoroughly, and won't be eternally getting out of order."

Dealer—"I see. I know exactly what you want, sir, just exactly."

Customer—"Well, show me one."

Dealer—"We don't keep door-springs."—New York Weekly.

SHE WAS SCARED.

A little Boston girl, only three years old, who had had no experience in the matter of broken limbs beyond that afforded by the casualties in her family of dolls, had the misfortune to fall and break her own arm, and as soon as she discovered what had happened to her, she cried out:

"Oh, mama, will it drop off?"

"No, darling," the mother answered. "I will hold it so that it will not hurt you till the doctor comes, and he will fix it all right."

"Well, mama," the little one said, pressing her lips together and trying to be brave, "do hold on tight so that the sawdust won't run out."—Youth's Companion.

HERE IS A RUSSIAN STORY.

A young widow put up a costly monument to her late husband, and inscribed upon it:

"My grief is so great that I cannot bear it." A year or so later, however, she married again, and feeling a little awkwardness about the inscription, she solved the difficulty by adding one word to it—"alone."—London Figaro.

LUNACY.

"They ought to lock Knotody up, or else compel him to get a divorce. He is no more fit to be the father of a family than an absolute idiot."

"Why, what's the matter with him?"

"He insisted upon naming his baby Grace, when her rich aunt's name is Mahitahel."—Puck.

STILL A CHANCE FOR TRADE.

Optician—"My dear sir, your case is hopeless."

Customer—"And am I doomed to blindness?"

Optician—"It is inevitable. I think you had better look at my beautiful line of artificial eyes at once."—Jewellers' Weekly.

VENGEANCE.

Returned traveler—"I have often thought of that young Mr. Tease, and how he used to torment Miss Auburn about her red hair. Did she ever get even with him?"

Old friend—"Long ago. She married him."—New York Weekly.

LITTLE BITS.

Women say of every pretty girl that she might be tolerably good-looking if she didn't know it so well herself.—Washington Democrat.

In the want ads.—Wanted—A courageous waiter; he will often be called on to get the customers their night-keys from home.—Fliegende Blätter.

Mike—"O! tell yez, it's the Oirish that makes the country what it is."

Dennis—"Indade an' it is! Doesn't ivery invention say, 'Pat. applied for?'"

Dawkins—"How's your indigestion, old man?"

Phillips—"It's doing nicely, thank you; but I don't feel very well myself."—Bazar.

"Hit do happen," said Uncle Eben, "dat a man's habd puzzled whethuh ter pay \$2 tax on 'is watch-dog or spend de money fer sumpin' wuf watchin'."—Washington Star.

"Dickie, how did you happen to eat the whole pie?"

"Mama, I played you wuz grandma, an' told me to take all I wanted."—Detroit Free Press.

"Of course a woman can tell a funny story," she exclaimed, indignantly; "I never tried to tell one yet that all the men didn't get to laughing before I had more than started."—Washington Star.

"They tell me your wife is a particularly fine housekeeper."

"Excruciatingly so. I've seen that woman sprinkle the clock with insect-powder to get rid of the ticks."—Detroit Free Press.

Query editor—"This writer wants to know where the person with the wedding-ring should be?"

Managing editor (a confirmed bachelor)—"Just say in the penitentiary."—Jewellers' Weekly.

Maude—"Why have you thrown Clarence overboard?"

Madge—"I couldn't marry a man with a broken nose."

Maude—"How did his nose get broken?"

Madge—"I struck him playing golf!"—Tit-Bits.

"Tell me, doctor," asked the ambitious young disciple of Galen, eagerly, "what was the most dangerous case you ever had?"

"In confidence, now that I am about to retire from practice," answered the veteran physician, frankly, "I will confess that it was my medicine-case."—Puck.

"You are a nice little boy," said the kindly old gentleman at the hotel.

"Thank you," said Tommy.

"Have you any little brothers?"

"Yes," said Tommy; "I've got brothers to burn; but I'm rather short on papa's. We've only got one."—Harper's Bazar.

While on a visit to this country last winter an Englishwoman found much fault with Americans for their ignorance upon all subjects relating to nature and out of doors. "You don't even know one tree from another," she declared to a New-Yorker one day. "I don't believe you can tell me this minute what kind of a tree that is out there." The New-Yorker gave one glance out of the window. "Of course I can't," she said, triumphantly; "it's without its leaves."—New York Evening Sun.

DRUNKENNESS IS A DISEASE.

Will send free Book of Particulars how to cure "Drunkenness or the Liquor Habit" with or without the knowledge of the patient. Address Dr. J. W. Haines, No. 439 Race Street, Cincinnati, Ohio.

ASTHMA

AND

HAY-FEVER CURED

BY THE

Kola Plant

Free

A New and Positive Cure for Asthma and Hay-fever has been found in the Kola Plant, a rare botanic product of West African origin. So great are the powers of this New Remedy that in the short time since its discovery it has come into almost universal use in the Hospitals of Europe and America for the cure of every form of Asthma. The cures wrought by it are really marvelous. Among others the editor of the *Farmer's Magazine*, of Washington, D. C., Mr. Alfred Lewis, testifies that after many years' suffering, especially in Hay-fever season, the Kola Plant completely cured him. He was so bad that he could not lie down, night or day, for fear of choking. After fifteen years' suffering from the worst form of Asthma, Mrs. A. McDonald, of Victor, Iowa, writes that the Kola Plant cured her in two weeks. Rev. S. H. Eisenberg, Centre Hall, Pa.; Rev. John L. Moore, Alice, S. C.; Mr. Frank C. Newall, Market National Bank, Boston, and many others give similar testimony of their cure of Asthma and Hay-fever, after five to twenty years' suffering, by this wonderful new remedy. As the Kola Plant is a specific constitutional cure for the disease, Hay-fever sufferers should use it before the season of the attacks when practical, so as to give it time to act on the system. If you suffer from Asthma or Hay-fever, in order to prove the power of this new botanic discovery, we will send you one Large Case by Mail entirely free. All that we request in return is that when cured yourself you will tell your neighbors about it. It costs you absolutely nothing. Send your address to THE KOLA IMPORTING CO., No. 1164 Broadway, New York City.



The Kola Plant

WANTED.

LADIES AND GENTLEMEN TO PROCURE SUBSCRIPTIONS FOR THE

WOMAN'S HOME COMPANION

the Most Beautiful and Popular Women's Magazine in the World, on extra liberal commissions. Terms, sample copies and special helps furnished free. Address

MAST, CROWELL & KIRKPATRICK, SPRINGFIELD, OHIO.

FREE

TO AGENTS—Complete outfit for big paying business. All profits clear, as we prepay charges. The rush is on, so come quick. FARM AND FIRESIDE, Springfield, O. MENTION THIS PAPER WHEN ANSWERING ADVERTISEMENTS.

CLOTHING.. Salesmen Wanted.

\$150.00 PER MONTH and expenses made by all our active men. We pay many far more.

We want men in every County in the United States. If your reference is satisfactory we will start you at once. No experience necessary. No capital required. We furnish a full line of samples, stationery, etc. A tailor's-for-the-trade complete outfit ready for business. No commission Plan, you regulate your profits to suit yourself. No house to house canvass. This is not one of the many catchy advertisements for agents, but one of the very few advertisements offering a rare opportunity to secure strictly high grade employment at big wages.

We are the Largest Tailors in America.

We make to measure over 300,000 suits annually. We occupy entire one of the largest business blocks in Chicago. We refer you to the Bank of Commerce in Chicago, any Express or Railroad Co. in Chicago, any resident of Chicago. Before engaging with us, write to our friend in Chicago and ask them to come and see us, then write you if it is a rare opportunity to secure steady, high class, big paying employment. BETTER STILL—come to Chicago yourself and see us before engaging and satisfy yourself regarding every word we say. You can get steady work and big pay. Work in your own county 300 days in the year, and you can't make less than \$3 every day above all expenses.

We Want to Engage You

to take orders for our Made-to-Order and Measure Custom Tailoring. (Men's Suits, Pants and Overcoats). We put you in the way to take orders from almost every man in your county, a business better than a store with a \$20,000.00 stock. You will have no competition. We buy our cloth direct from the largest European and American Mills. We operate the most extensive and economical custom tailoring plants in existence, thus reducing the price of Suits and Overcoats made-to-order to \$5.00 and upward; Pants from \$1.50 to \$5.00. Prices so low that nearly every one in your county will be glad to have their Suits and Overcoats made to order.

WE FURNISH YOU A large, handsome leather bound book containing large cloth samples of our entire line of Suits, Overcoats and Pantaloons, a book which costs us several dollars to get up, also Fine Colored Fashion Plates, Instruction Book, Tape Measure, Business Cards, Stationery, Advertising Matter, your name on rubber stamp with pad complete. We also furnish you a Salesman's Not Confidential Price List. The prices are left blank under each description so you can fill in your own selling prices. Arrange your profit to suit yourself. As soon as you have received your sample book and general outfit and have read our book of instructions carefully, which teaches you how to take orders, and marked in your selling price you are ready for business and can begin taking orders from every one. At your low prices business men, farmers, and in fact every one will order their suits made. You can take several orders every day at \$1.00 to \$5.00 profit on each order, for every one will be astonished at your low prices.

YOU REQUIRE NO MONEY Just take the orders and send them to us and we will make the garments within 5 days and send direct to your customers by express C. O. D. subject to examination and approval, at your selling price and collect your full selling price, and every week we will send you a check for all your profit. You need collect no money, deliver no goods, simply go on taking orders, adding a liberal profit, and we deliver the goods, collect all the money and every week promptly send you in one round check your full profit for the week. Nearly all our good men get a check from us of at least \$40.00 every week in the year.

THE OUTFIT IS FREE

We make no charge for the book and complete outfit, but as EACH OUTFIT COSTS US SEVERAL DOLLARS, to protect ourselves against many who would impose on us by sending for the outfit with no intention of working, but merely out of idle curiosity, AS A GUARANTEE OF GOOD FAITH ON THE PART OF EVERY APPLICANT, we require you to fill out the blank lines below, giving the names of two parties as reference, and further agreeing to pay ONE DOLLAR and express charges for the outfit when received, if found as represented and really a sure way of making big wages. The \$1.00 you agree to pay when outfit is received does not begin to pay the cost to us but insures you mean business. WE WILL REFUND YOUR \$1.00 AS SOON AS YOUR ORDERS HAVE AMOUNTED TO \$25.00, which amount you can take the first day you work.

Fill out the following lines carefully, sign your name, cut out and send to us, and the outfit will be sent you at once

AMERICAN WOOLEN MILLS CO., Enterprise Bldg, CHICAGO, ILL.

GENTLEMEN:—Please send me by express C. O. D., subject to examination, your Sample Book and Complete Salesman's Outfit, as described above. I agree to examination at the express office and if found exactly as represented and I feel I can make good big wages taking orders for you, I agree to pay the express agent as a guarantee of good faith, and to show I mean business, One Dollar and express charges, with the understanding the One Dollar is to be refunded to me as soon as my sales have amounted to \$25.00. If not found as represented and I am not perfectly satisfied I shall not take the outfit or pay one cent.

Sign your name on above line.

Name of Postoffice, County and State on above line.

Your age.....

Married or single.....

Address your letters plainly to

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On above two lines give as reference the names of two men over 21 years of age who have known you one year or longer.

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RHEUMATISM

Permanently cured by using DR. WHITEHALL'S RHEUMATIC CURE. The surest and the best. Sample sent free on mention of this publication. THE DR. WHITEHALL MCGRIMME CO., South Bend, Indiana.

Our Miscellany.

WHAT TO DO.

Wot are we goin' to do now?
Wot are we waitin' fer?
I ask'd the comp'ny captin, but he raised a
slight demur.
He said to ask the majer,
Who said the colonel knew;
But the heggar, he slumped the question;
So wot are we goin' to do?

Fer they took us from our barracks, an' they
shipped us to the East
On a bloomin', gruntin' speshul that ran like
lightnin' greas'd;
Au' we only slept between times, an' the
gruh they gave to us
Was rotten had at startin', an' kept a-gettin'
wuss.

"Semble the comp'ny, sergeant," the cap-
tin ord'ring cries:
"Fall in, comp'ny, fall in lively, mind your
eyes!

Dress to the right, ye lubbers! Front! Will
ye never learn?"

The sergeant salutes the captin, an' the
captin salutes in turn.

Thou we heard the hugles callin'—an adju-
tant's was wot;

An' the captin give his orders, an' took us
on a trot.

Fer we was color comp'ny, an' we took it
feelin' fine,

Au' in heavy marchiu' order in the center
of the line.

"Tallion, 'tenshun!" Listen, the adjutant
gives 'em fine.

"There alud' no time fer reportin', an' you
needn't troop the line."

We heard the old man say it, "My Gawd,
the trouble is here."

We were silent fer haf a second, an' then
began to cheer.

But the old man sat quite silent; then he
raised his hand fer quiet.

An' I saw a tear a-tricklin', au' he says,
"We're goin' to fight."

An' pintin' to the colors—the stars and
stripes—he said:

"There's yer country's colors; guard 'em till
yer dead."

Wot are we goin' to do now?
Wot are we waitin' fer?

I ask'd the comp'ny captin, but he raised a
slight demur.

He said to ask the majer,
Who said the colonel knew;

Au' the heggar, he show'd us the colors,
An' told us what to do.

—Philadelphia Times.

THE VALUE OF FRUITS.

FRUITS are of great value in many forms of disease, because of the acids which they contain. These acids, when taken into the blood, break up some of the compounds of waste substances which have been formed, and thus give rise to an increased excretion of these substances through the kidneys. In this way fruits are a great advantage in the treatment of rheumatism, gout, gravel and all the different morbid conditions which accompany the so-called uric acid diathesis. The observations of Haig respecting the relation of uric acid to neurasthenia give to fruit a great dietetic value in this disease. He has shown that neurasthenia is almost the result of the accumulation within the system of tissue wastes largely in the form of uric acid. The free use of fruits is the elimination of these poisons, not only by breaking up the compounds which they form within the body, but by stimulating the kidneys to increased normal activity.

Remembering the interesting fact pointed out by Bouehard, that rheumatism is really a toxemia, resulting from the decomposition of food stuffs in a dilated or prolated stomach, we may also attribute the beneficial effects of a fruit diet in rheumatism and allied conditions to its value in suppressing the formation of poisonous substances in the alimentary canal in the manner already pointed out.

Obesity, which is, like rheumatism, a diathesis, may be successfully treated by a fruit dietary. This is due not only to the fact that fruit is a natural food, and thus aids the system to establish normal tissue metamorphosis and a normal balance between the processes of assimilation and dissimilation, but also because it affords a very comfortable means of reducing the amount of nutrient material received to a minimum quantity.

Fruit is chiefly water, the amount of nutritive material it contains varying from five to eight or ten per cent in most fruits, rising to a higher figure only in dried fruits, such as dried grapes, prunes, dates, etc. The writer has succeeded in reducing excessive weight in the most satisfactory manner by prescribing a diet consisting almost exclusively of grapes or apples, allowing only a small bit of thoroughly dried bread or zwieback in connection with the fruit. In some cases

the fruit may be allowed as often as three or four times a day, if necessary to relieve an uncomfortable sensation of emptiness.

In fevers, fruits, especially in the form of fruit-juices, are a most convenient and certainly the most appropriate of all foods. It is now almost universally recognized that beef tea and meat preparations of all sorts should be wholly proscribed in cases of fever, as the patient is already suffering from the accumulation of waste matters to such a degree that the addition of even the small amount contained in beef tea or a small piece of meat may be sufficient to give rise to an exacerbation of the disease and lessen the patient's chances for recovery.—Modern Medicine.

A SENSE OF HUMOR THE MOST PRECIOUS GIFT.

I regard a sense of humor as one of the most precious gifts that can be vouchsafed to a human being. He is not necessarily a better man for having it, but he is a happier one. It renders him indifferent to good or bad fortune. It enables him to enjoy his own discomfiture. Blessed with this sense he is never unduly elated or cast down. No one can ruffle his temper. No abuse disturbs his equanimity. Bores do not bore him. Humbugs do not humbug him. Solemn airs do not impose on him. Sentimental gush does not influence him. The follies of the moment have no hold on him. Titles and decorations are but childish haubles in his eyes. Prejudice does not warp his judgment. He is never in conceit or out of conceit with himself. He abhors all dogmatism. The world is a stage on which actors strut and fret for his edification and amusement, and he pursues the even current of his way, invulnerable, doing what is right and proper according to his lights, but utterly indifferent whether what he does finds approval or disapproval from others. If Hamlet had had any sense of humor he would not have been a nuisance to himself and to all surrounding him.—London Truth.

DIFFERENCE BETWEEN INDIA-RUBBER AND GUTTA-PERCHA.

India-rubber is of a soft, gummy nature, not very tenacious, astonishingly elastic.

Gutta-percha is fibrous, extremely tenacious, and without much elasticity or flexibility.

India-rubber once reduced to a liquid state by heat appears like tar and is unfit for further use.

Gutta-percha may be melted and cooled any number of times without injury for future manufacture.

India-rubber coming in contact with oily or fatty substances is soon decomposed and ruined.

Gutta-percha is not decomposed by coming in contact with oily or fatty substances.

India-rubber is ruined by coming in contact with sulphuric, muriatic and other acids.

Gutta-percha resists the action of these and nearly all acids.

India-rubber is a conductor of heat, cold and electricity.

Gutta-percha is a non-conductor of heat, cold and electricity.—The Formulary.

THE CARE OF SHOES.

Rub patent-leather shoes, particularly new ones, with the palm of the hand until quite warm before putting on, and it will prevent splitting and cracking.

Wear overgaiters only when they are necessary to protect the upper part of your shoes from the swish of your wet skirts in stormy weather. The fashion of wearing them is out of date.

Don't have fancy pointed tips on your shoes these days—they are quite passe; the proper kind is a plain, straight-across one, with just a single row of perforations to mark the edge.

Calf-skin shoes should not be polished with liquid dressing; it will crack them. The paste that men use is better, but too much of this should not be put on, or it will not polish so readily, besides hurting your shoe.

Don't neglect to turn the uppers of shoes down and put them by an open window for an hour or two after wearing. It is more hygienic, economical and fastidious.

CAUSES OF DEATH.

A compiler of statistics is authority for the statement that less than 900 persons out of every 1,000,000 die from old age. Out of that number 48,000 are victims of scarlet fever, 30,000 of typhoid and kindred fevers, 25,000 of whooping cough, 18,000 of measles, 7,500 of consumption, 7,000 of rheumatism and the same number of erysipelas, while 2,700 are carried off by apoplexy, and 1,200 are victims of gout.—New York Ledger.

SUFFICIENTLY IDENTIFIED.

A few years ago, when the Rev. Mr. Tooth, the Anglican ritualist, was being so widely discussed in the press, a clergyman who was denouncing him said, "I will not name him, but his name is in everybody's mouth." Then, seeing the smiles on the faces of his congregation, he turned scarlet.—Catholic Standard and Times.

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Music for Voice and Piano or Organ.

| | | | |
|-----|--|-----|---|
| No. | Music for Voice and Piano or Organ. | No. | Music for Piano or Organ. |
| 702 | Annie's Love. Duet for Soprano and Tenor | 701 | Catherine Waltzes |
| 704 | Esther's Lullaby. Slumber Song | 703 | Schubert's Serenade. Transcription |
| 706 | Thinking of Home and Mother | 705 | Silvery Waves. Variations |
| 708 | Flossie. Waltz Song | 707 | Visions of Light Waltz |
| 710 | Sweetest Song. The | 709 | Our Little Acres Waltz |
| 712 | Bridge. The. Words by Longfellow | 711 | American Liberty March |
| 714 | Outcast. An. Character Song | 713 | Smith's (General) March |
| 716 | Ben Bolt, of "Trilby" fame | 715 | Old Oaken Bucket, The. Variations |
| 719 | "E Dunno Where 'E Are. Comic | 717 | Impassioned Dream Waltzes |
| 721 | Keep the Horseshoe Over the Door | 719 | Boston Commandery March |
| 723 | Rocked in the Cradle of the Deep | 721 | Frolie of the Frogs Waltz |
| 725 | Lullaby. Do You Think of Me Now? | 723 | In Hoc Signo Vinces. 1895 K. T. March |
| 727 | Ave Maria. From Cavalleria Rusticana | 725 | Over the Waves Waltz |
| 730 | Juanita. Ballad | 727 | Village Parade Quickstep |
| 732 | Mission of a Rose. The. Song | 729 | Sweet Long Ago. Transcription |
| 734 | Sweet Long Ago. The | 731 | Song of the Voyager |
| 736 | By Normandy's Blue Hills | 733 | Corn Flower Waltzes |
| 738 | For the Colors. Patriotic | 735 | Black Hawk Waltz |
| 740 | True to the Last | 737 | Battle of Waterloo. Descriptive |
| 742 | Come When the Soft Twilight Falls. Duet | 739 | Ruth, Esther and Marion Schottische |
| 744 | Beautiful Face of Jennie Knott, The | 741 | Crack Four March |
| 746 | That Word Was Hope. Waltz Song | 743 | Leap Year Schottische |
| 748 | Little Boy Blue. Solo or Duet | 745 | March Winds Galop |
| 750 | Easter Eve. Sacred | 747 | Cleveland's March |
| 752 | Mother's Cry. A. Salvation Army | 749 | Full of Ginger. March Galop |
| 754 | Music Dialogue. Duet | 751 | Bluebird Echo Polka |
| 756 | Precious Treasure. Song and Dance | 753 | Greeting of Spring. Op. 21 |
| 758 | When the Roses are Blooming Again | 755 | Memorial Day March |
| 760 | Old Glory. National | 757 | Twilight Echoes. Song without words |
| 762 | Your Mother's Love for You | 759 | Wedding March |
| 764 | Vicar of Bray, The. Old English Song | 761 | Morning Star Waltz |
| 766 | For You We are Praying at Home | 763 | McKinley and Hohart March |
| 768 | Lovely Little Nellie Dwyer | 765 | Bells of Cornville. Potpourri |
| 770 | Dear Heart, We're Greeting Old | 767 | Bryan and Sewell March |
| 772 | Ellaline. Waltz Song | 769 | Flirt in the starlight Waltz |
| 774 | In Sweet September | 771 | Crystal Dew Waltz |
| 776 | My Home by the Old Mill | 773 | Storm Mazurka |
| 778 | Can You, Sweetheart, Keep a Secret? | 775 | Scherzettino. Op. 43 |
| 780 | See Those Living Pictures | 777 | Fifth Nocturne |
| 782 | My Old Kentucky Home | 779 | Please Do Waltz |
| 784 | What are the Wild Waves Saying? Duet | 781 | Coming from the Races Galop |
| 786 | When Winter Days Have Gone | 783 | Orpheus Waltz |
| 788 | Shall I Ever See My Mother's Face Again? | 785 | Vincent's Grace. A perfect gem |
| 790 | On the Beach. Most beautiful Ballad | 787 | National Anthems of Eight Great Nations |
| 792 | Cow Bells, The. Boyhood's Recollection | 789 | Morning Dew. Op. 18 |
| 794 | Old Folks at Home. Swanee Ribber | 791 | Estrella, Air de Ballet. Very fine |
| 796 | Lost Chord, The | 793 | Waves of the Ocean March |
| 798 | Kathleen Mavourneen | 795 | Spirit Lake Waltz |
| 800 | Picture of My Mother, The | 797 | Fresh Life |
| 802 | Old Sexton | 799 | Maiden's Prayer, The |
| 804 | On the Banks of the Beautiful River | 801 | Monastery Bell |
| 806 | Lottie Bell | 803 | Trifles Grand March. Op. 182 |
| 808 | Tread Softly, the Angels are Calling | 805 | Zephyr Waltz |
| 810 | My Little Lost Irene | 807 | Ethel Polka |
| 812 | Massa's Sleeping in de Churchyard | 809 | Bridal March from Lohengrin |
| 814 | My First Wife's Departed. Bluebird | 811 | Constancy. Romance |
| 816 | 'Tis True, Dear Heart, We're Fading | 813 | Under the Double Eagle March |
| 818 | There's a Rainbow in the Clouds | 815 | Tomato Galop |
| 820 | Storm at Sea. Descriptive | 817 | Echoing Trumpets March |
| 822 | Changeless | 819 | Woodland Whispers Waltzes |
| 824 | Softly Shine the Stars of Evening | 821 | Electric Light Galop |
| 826 | Far from the Hearthstone | 823 | Old Folks at Home. Transcription |
| 828 | Don't Drink, My Boy, To-night. Temperance Hooper | 825 | My Old Kentucky Home. Variations |
| 830 | Kiss that Bound My Heart to Thine | 827 | Rustling Leaves. Idylle |
| 832 | Kiss Me, but Don't Say Good-by | 829 | Venetian Waltz |
| 834 | Beautiful Moonlight. Duet | 831 | Monastery Bell. Nocturne |
| 836 | Request. Sacred | 833 | Cadenes and Scales in all the Keys |
| 838 | Christmas Carol | 835 | Nightingale's Trill. Op. 51 |
| 840 | For a Dream's Sake | 837 | My Love Polka |
| 842 | Beacon Light of Home | 839 | Home, Sweet Home. Transcription |
| 844 | Rose-monde | 841 | London March—Two Step |
| 846 | Flirting in the Starlight | 843 | Richmond March—Two Step |
| 848 | Listen to the Mocking Bird | 845 | Clayton (Adjutant) March—Two Step |
| 850 | Poor Girl Didn't Know. Comic | 847 | Grand Commandery March—Two Step |
| 852 | Gypsy Countess. Duet | 849 | Salem Witches March—Two Step |
| 854 | Flag of Our Country. Patriotic | 851 | The Storm. Imitation of Nature |
| | | 853 | Jenny Lind Polka. Four Hands |

Music for Piano or Organ.

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| No. | Music for Piano or Organ. | No. | Music for Piano or Organ. |
| 701 | Catherine Waltzes | 701 | Catherine Waltzes |
| 703 | Schubert's Serenade. Transcription | 703 | Schubert's Serenade. Transcription |
| 705 | Silvery Waves. Variations | 705 | Silvery Waves. Variations |
| 707 | Visions of Light Waltz | 707 | Visions of Light Waltz |
| 709 | Our Little Acres Waltz | 709 | Our Little Acres Waltz |
| 711 | American Liberty March | 711 | American Liberty March |
| 713 | Smith's (General) March | 713 | Smith's (General) March |
| 715 | Old Oaken Bucket, The. Variations | 715 | Old Oaken Bucket, The. Variations |
| 717 | Impassioned Dream Waltzes | 717 | Impassioned Dream Waltzes |
| 719 | Boston Commandery March | 719 | Boston Commandery March |
| 721 | Frolie of the Frogs Waltz | 721 | Frolie of the Frogs Waltz |
| 723 | In Hoc Signo Vinces. 1895 K. T. March | 723 | In Hoc Signo Vinces. 1895 K. T. March |
| 725 | Over the Waves Waltz | 725 | Over the Waves Waltz |
| 727 | Village Parade Quickstep | 727 | Village Parade Quickstep |
| 729 | Sweet Long Ago. Transcription | 729 | Sweet Long Ago. Transcription |
| 731 | Song of the Voyager | 731 | Song of the Voyager |
| 733 | Corn Flower Waltzes | 733 | Corn Flower Waltzes |
| 735 | Black Hawk Waltz | 735 | Black Hawk Waltz |
| 737 | Battle of Waterloo. Descriptive | 737 | Battle of Waterloo. Descriptive |
| 739 | Ruth, Esther and Marion Schottische | 739 | Ruth, Esther and Marion Schottische |
| 741 | Crack Four March | 741 | Crack Four March |
| 743 | Leap Year Schottische | 743 | Leap Year Schottische |
| 745 | March Winds Galop | 745 | March Winds Galop |
| 747 | Cleveland's March | 747 | Cleveland's March |
| 749 | Full of Ginger. March Galop | 749 | Full of Ginger. March Galop |
| 751 | Bluebird Echo Polka | 751 | Bluebird Echo Polka |
| 753 | Greeting of Spring. Op. 21 | 753 | Greeting of Spring. Op. 21 |
| 755 | Memorial Day March | 755 | Memorial Day March |
| 757 | Twilight Echoes. Song without words | 757 | Twilight Echoes. Song without words |
| 759 | Wedding March | 759 | Wedding March |
| 761 | Morning Star Waltz | 761 | Morning Star Waltz |
| 763 | McKinley and Hohart March | 763 | McKinley and Hohart March |
| 765 | Bells of Cornville. Potpourri | 765 | Bells of Cornville. Potpourri |
| 767 | Bryan and Sewell March | 767 | Bryan and Sewell March |
| 769 | Flirt in the starlight Waltz | 769 | Flirt in the starlight Waltz |
| 771 | Crystal Dew Waltz | 771 | Crystal Dew Waltz |
| 773 | Storm Mazurka | 773 | Storm Mazurka |
| 775 | Scherzettino. Op. 43 | 775 | Scherzettino. Op. 43 |
| 777 | Fifth Nocturne | 777 | Fifth Nocturne |
| 779 | Please Do Waltz | 779 | Please Do Waltz |
| 781 | Coming from the Races Galop | 781 | Coming from the Races Galop |
| 783 | Orpheus Waltz | 783 | Orpheus Waltz |
| 785 | Vincent's Grace. A perfect gem | 785 | Vincent's Grace. A perfect gem |
| 787 | National Anthems of Eight Great Nations | 787 | National Anthems of Eight Great Nations |
| 789 | Morning Dew. Op. 18 | 789 | Morning Dew. Op. 18 |
| 791 | Estrella, Air de Ballet. Very fine | 791 | Estrella, Air de Ballet. Very fine |
| 793 | Waves of the Ocean March | 793 | Waves of the Ocean March |
| 795 | Spirit Lake Waltz | 795 | Spirit Lake Waltz |
| 797 | Fresh Life | 797 | Fresh Life |
| 799 | Maiden's Prayer, The | 799 | Maiden's Prayer, The |
| 801 | Monastery Bell | 801 | Monastery Bell |
| 803 | Trifles Grand March. Op. 182 | 803 | Trifles Grand March. Op. 182 |
| 805 | Zephyr Waltz | 805 | Zephyr Waltz |
| 807 | Ethel Polka | 807 | Ethel Polka |
| 809 | Bridal March from Lohengrin | 809 | Bridal March from Lohengrin |
| 811 | Constancy. Romance | 811 | Constancy. Romance |
| 813 | Under the Double Eagle March | 813 | Under the Double Eagle March |
| 815 | Tomato Galop | 815 | Tomato Galop |
| 817 | Echoing Trumpets March | 817 | Echoing Trumpets March |
| 819 | Woodland Whispers Waltzes | 819 | Woodland Whispers Waltzes |
| 821 | Electric Light Galop | 821 | Electric Light Galop |
| 823 | Old Folks at Home. Transcription | 823 | Old Folks at Home. Transcription |
| 825 | My Old Kentucky Home. Variations | 825 | My Old Kentucky Home. Variations |
| 827 | Rustling Leaves. Idylle | 827 | Rustling Leaves. Idylle |
| 829 | Venetian Waltz | 829 | Venetian Waltz |
| 831 | Monastery Bell. Nocturne | 831 | Monastery Bell. Nocturne |
| 833 | Cadenes and Scales in all the Keys | 833 | Cadenes and Scales in all the Keys |
| 835 | Nightingale's Trill. Op. 51 | 835 | Nightingale's Trill. Op. 51 |
| 837 | My Love Polka | 837 | My Love Polka |
| 839 | Home, Sweet Home. Transcription | 839 | Home, Sweet Home. Transcription |
| 841 | London March—Two Step | 841 | London March—Two Step |
| 843 | Richmond March—Two Step | 843 | Richmond March—Two Step |
| 845 | Clayton (Adjutant) March—Two Step | 845 | Clayton (Adjutant) March—Two Step |
| 847 | Grand Commandery March—Two Step | 847 | Grand Commandery March—Two Step |
| 849 | Salem Witches March—Two Step | 849 | Salem Witches March—Two Step |
| 851 | The Storm. Imitation of Nature | 851 | The Storm. Imitation of Nature |
| 853 | Jenny Lind Polka. Four Hands | 853 | Jenny Lind Polka. Four Hands |

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No. 518.—A stylish ring with four emerald settings.

- No. 521.—Has a garnet center surrounded by eight diamonds.
No. 519.—An oval band-ring; suitable for anybody.
No. 517.—A baby's ring with turquoise setting.
No. 504.—Lovers' knot, a very pretty ring.
No. 511.—Has four diamond settings.
No. 516.—A man's ring with diamond and two garnet settings.
No. 515.—A solitaire diamond in Tiffany setting.
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No. 502

Sizes, 6, 7, 8, 9, 10, 11, 12

No. 507

Sizes, 4, 5, 6, 7, 8, 9, 10

No. 508

Sizes, 4, 5, 6, 7, 8, 9, 10

No. 509

Sizes, 6, 7, 8, 9, 10, 11, 12

No. 501

Sizes, 4, 5, 6, 7, 8, 9, 10

No. 513

Sizes, 5, 6, 7, 8, 9, 10, 11

No. 510

Sizes, 6, 7, 8, 9, 10, 11, 12

No. 512

Sizes, 6, 7, 8, 9, 10, 11, 12

No. 514

Sizes, 4, 5, 6, 7, 8, 9, 10

No. 515

Sizes, 5, 6, 7, 8, 9, 10, 11

No. 516

Sizes, 6, 7, 8, 9, 10, 11, 12

No. 511

Sizes, 4, 5, 6, 7, 8, 9, 10

No. 504

Sizes, 4, 5, 6, 7, 8, 9, 10

No. 521

Sizes, 5, 6, 7, 8, 9, 10, 11

No. 519

Sizes, 4, 5, 6, 7, 8, 9, 10

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The soil for onions should be either new land containing leaf-mold and decomposed vegetation or well-tilled and highly fertilized fields upon which clean hoed crops have been grown. If it contains much clay, the surface will bake and the plants not come, or imperfect tubers form, and where sand predominates there will be a lack of moisture, and the bulbs will be tough. In the Rocky mountains the creek-bottom and bench lands covered with oaks are the ideal spots for growing onions, and with proper irrigation produce large crops without much labor, except what can be done with a cultivator. The land should be plowed when moist, but not wet, thoroughly leveled and rolled and left to pack well before being furrowed for transplanting or seeded by the old process. In either case the rows should be about fourteen inches apart, and if the lay of the land permits, be sure to run north and south, to retain moisture.

Seed must be first class, or disappointments will follow all planting by every method. The best way to procure reliable seed is to purchase from responsible seedsmen, rejecting all store and jobbing offers, and especially keeping away from cheap seed-houses. Four pounds will plant an acre in drills and leave many plants for thinning, while two pounds of good seed will furnish enough plants for an acre, if grown in seed-beds and transplanted. The seed can be sown in the open ground in August or September and left to stand all winter, when the plants will be ready for resetting; or hotbeds or cold-frames may be used for germinating the seed and starting the plants, the same as for cabbage, celery and other vegetables. I prefer drilling thickly in the fall and transplanting from the outside rows in the early spring. If sown in the autumn, however, time must be given the seed to germinate and plants to get fairly started before cold weather.

Transplanting is best done with a regular dibble, making holes four or five inches deep. The small plants the size of a knitting-needle should be set in the holes a little deeper than they stood in the seed-bed, and stand about three inches apart in the row. Red Wethersfield, Yellow Danvers and Prizetakers are good onions for transplanting, and constitute the main market varieties, but others probably as good may be planted with equal assurance of success. Planting should be done after a rain or when the ground is moist, to insure a good stand. If any plants die, their places can be readily filled with new ones. The after-cultivation can all be performed with plow and hoe, saving the hand-weeding and thinning. Two grades should be made for market, the bulbs sacked when clean and dry, and the sacks sewed with good twine. If a satisfactory local market is not obtainable, then ship to prominent dealers who advertise in farm publications.

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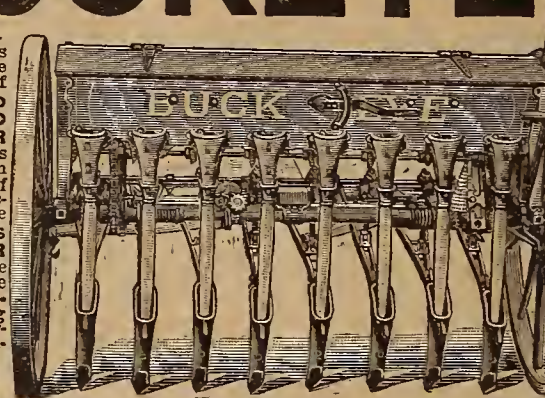
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SEPTEMBER 1, 1898.

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ON PAGE 19

WITH THE VANGUARD

AMERICAN colonial expansion or Spanish colonial oppression? No just dividing line can be fixed between them. The former must not be limited by the continuance of the latter in any part of the world. Wherever the American flag has been raised in the name of liberty, justice and humanity the Spanish flag must come down.

Before the war there was no Philippine question. Now it is the leading question of the day. The peace commission, which, under the terms of the protocol, will determine the future control, disposition and government of the Philippines, will meet in Paris by October 1st. By that time the answer of the American people to this question must be ready; for, undoubtedly, the demands of our commissioners will stand as the final terms of peace between Spain and the United States.

In a recent address Col. Alexander McClure eloquently and correctly defined American imperialism as follows: "The same supreme power that demanded this war will demand the complete fulfillment of its purpose. It will demand, in tones which none can misunderstand and which no power or party can be strong enough to disregard, that the United States flag shall never be furled in any Spanish province where it has been planted by the heroism of our army and navy.

"Call it imperialism if you will; but it is not the imperialism that is inspired by the lust of conquest. It is the higher and nobler imperialism that voices the sovereign power of this nation and demands the extension of our flag and authority over the provinces of Spain, solely that 'government of the people, by the people and for the people shall not perish from the earth.'

"Such is the imperialism that has become interwoven with the destiny of our great free government, and it will be welcomed by our people regardless of party lines, and will command the commendation of the enlightened

powers of the Old World, as it rears, for the guidance of all, the grandest monument of freedom as the proclaimed policy and purpose of the noblest government ever reared by a man or blessed by a heaven."

United States Consul-general Goodnow, at Shanghai, China, discusses expansion from the commercial standpoint as follows:

"We should hold the Philippine islands, the Caroline islands and the Ladrone islands, also Cuba and Porto Rico. It does not matter whether we call them war indemnity or what. We need them in our business. You have no idea, and cannot have until you get out here, how all nations are fighting for trade, and what an intense jealousy there is of the United States. Just now the continental people seem more jealous of us than even of England. If we are to have anything to say we must have a navy. To have a navy we must have coaling-stations. That means the Sandwich islands and the Philippines. To handle our navy economically and effectively we must build the Nicaragua canal, and, in my opinion, should buy a strip of land across Nicaragua to build our canal in our own territory.

"Look on the map, showing the routes of full power steam vessels, and you will see that every trade route to the isthmus passes Cuba and Porto Rico, and a strong country controlling those two makes the canal at the isthmus a private waterway whenever it wants to. Cuba controls the Gulf of Mexico and the water routes to the mouth of the Mississippi.

"It is a big program, but I think we have got to do it. England controls absolutely one route to the East by the Mediterranean and Suez canal. Let us control the other route by the Nicaragua, and the Anglo-American alliance rules the world. Not a continental nation would dare oppose us, for we could starve them out. We are the people if we take our opportunities as they come along."

Ex-congressman McCreary, of Kentucky, for several terms a member of the House foreign relations committee, says:

"The provisions of the peace protocol seems to be unanimously indorsed by the people of the United States. The people are also unanimous and enthusiastic in their admiration for the bravery and splendid achievements of our army and navy.

"It was expected that Spain would be required to relinquish all claims to Cuba, and it is a logical result of the war that Porto Rico and other islands in the West Indies should be ceded to the United States.

"I am not in favor of giving up any place over which our flag floats. It is wisely provided in the protocol that the United States shall occupy and hold the city, bay and harbor of Manila pending the determination of the control, disposition and government of the Philippines. We must preserve and hold forever that which Dewey and his brave men so gallantly won.

"The problem of the Philippines is not difficult if we consider it from a purely patriotic and American standpoint. Progress, wealth, population and the demands of agriculture, industries and manufacture change the situation. While it was proper for our people to oppose territorial expansion for many years, except where the territory was contiguous, conditions have changed. The days of our isolation are over. To preserve our leadership among nations we must be controlled by great events and the demands of the times. China and Japan and the southeastern provinces of Asia constitute the great commercial theater of the future and present attractive markets for our agricultural, industrial and mechanical products. They are logically our customers and allies in trade, for they are nearer to us than to England, Germany or France."

THE opinions of the European press on the United States changed greatly during the progress of the war with Spain. The hostility and contempt expressed

at first by many foreign papers have disappeared. The London press has been fair and friendly, but free with criticism. What may be termed an outside view of the war is presented as follows in the editorial columns of the London "Times:"

"If foreign observers might presume to have an opinion upon his conduct, it would be that President McKinley has kept his finger constantly upon the national pulse, and has known how to stimulate and direct national thought without too markedly outrunning its movement. Everything has been done in the open. Every move has been discussed as a possibility all over the United States before the government was irrevocably committed one way or the other, and the result of the cautious, tentative policy is that where he stands at this moment the President has the whole American people at his back. We do not know that there can be any higher statesmanship for a president governing under the constitution of the United States.

"It is noteworthy that while the Spaniards, who are usually regarded as chivalrous, romantic and medieval, have turned first to the financial aspect of the situation, the Americans, who are usually supposed to be intensely practical, have as yet hardly given a thought to the financial or economic side of the question. What occupies the American people at this moment is not the cost of the war, the value of their acquisitions or the balance of the profit and loss account, but the moral result of the struggle and the nature of the ideas which it stimulates.

"Whether Bryanism is dead or only sleeping, whether the smaller issues of party warfare are superseded by large and worthy conceptions of national policy or only thrown for the time into the background, there can be no doubt that the war has had and will have a profound effect upon American ideas and aims. Not only has it renovated the idea of national unity, impaired by the great civil struggle, but it has supplied that sense of contact with external forces, which is probably one of the most potent influences in favor of maintaining the national spirit.

"The Antilles themselves introduce a novel element into American life and open up questions upon which parties may differ greatly and worthily. This in itself is a gain, and one which was more or less conscientiously sought when the war was undertaken. The perilous unrest spoken of by the New York "Times" was a real national evil, which sprang directly, so far as foreigners can judge, from the disappearance of clear, intelligent party issues. That unrest, we may assume, has vanished and been replaced by new anxieties or solicitudes which may become acute, but are very unlikely to become morbid.

"Beyond the Antilles lies a more difficult question—the Philippines—and that question does not end with the Philippines themselves. These islands may be taken just now as a symbol of American awakening, and of the entry of the republic upon a new career which, Philippines or no Philippines, she is henceforth bound to follow."

MAY 1st and August 13th, Cavite and Manila—the Alpha and the Omega of the war, with Dewey commodore at the beginning, admiral at the end and statesman all the time. The hero of this war, farthest from home and nearest the hearts of his countrymen, is George Dewey. Not less brilliant than his achievements as naval commander was his display of diplomatic tact and administrative abilities. Over Spanish forces, Philippine insurgents and foreign fleets the peerless victor of Cavite was master of the situation from the night his fleet passed Corregidor until Governor Merritt took up his residence in the palace at Manila. If, in reward for his distinguished services, the President should recommend the revival of the office of Vice-admiral, first honored by Farragut, Congress will act and the people approve unanimously.

FARM AND FIRESIDE

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ABOUT RURAL AFFAIRS.

Manufacturers and Mixers. In bulletin No. 93 of the Ohio experiment station Director Thorne gives a review of the first principle of the chemistry of fertilizers, and then speaks of the manufacture of fertilizers as follows:

"The phosphatic rocks of South Carolina, Florida and Tennessee are quarried and dried, and either ground into powder near the point of production, or else shipped without grinding. The present quotations for ground rock at Charleston, South Carolina, are \$5.50 to \$5.60 a ton of 2,000 pounds, and \$3.50 to \$3.60 a ton of 2,000 pounds for the same rock dried but unground. It is largely shipped north by ocean freight, and the ground and acidulated rock is now offered in bulk in car-load lots in Baltimore at \$7.50 a ton, or at \$8.50 a ton in sacks of 200 pounds. For larger lots the price is of course still lower.

"Some of the larger establishments purchase the unground rock, grind it and treat it with sulphuric acid, in some cases manufacturing the acid for this purpose. The market price for such acid is about the same as that given for acidulated rock, and acid and rock are used in approximately equal quantities, varying somewhat, of course, according to strength of acid and composition of rock.

"The manufacture of the acid and grinding and treating of the rock are operations which can be performed with greatest economy on the large scale, with special equipment, and should not be undertaken on the farm, and the same is true of the manufacture of tankage.

"Both acid phosphate and tankage are in the condition of fine, dry powder, ready for use in the fertilizer drill. In fact, both are largely used directly as fertilizers without the addition of any other material. Being in this mechanical condition it will be seen that they may be as readily mixed together as, for instance, corn-meal and bran, and in consequence of this facility of mixing countless so-called 'manufacturers' of fertilizers are to be found throughout the country who are simply mixers and nothing more. A few large establishments do all the manufacturing, and from these the mixers purchase their materials, which they stir together in various proportions and put upon the

market as special fertilizers for corn, wheat, tobacco, potatoes, fruit, etc.

"To the mixture of tankage and acid phosphate potash is occasionally added, usually in the form of the muriate, as that is both a cheap and an effective carrier of potash. It is a coarse, dry salt, which may be readily mixed with acid phosphate and tankage."

* * *

In a general way it may be said that the mixing of fertilizers is a rather simple process, and all that is required is thoroughness in the operation. We can do the job on a tight barn floor even with such crude implements as hoe and shovel, but one should not be afraid of spending a little time at it. Professional fertilizer-mixers (like the concoctors of patent medicines) usually try to shroud this whole business in a cloud of mystery. Even such material as plain acidulated (dissolved) phosphatic rock is usually put on the market under the name of "Somebody's Dissolved Soluble Bone Phosphate." This material is nothing more than acid phosphate (or plain superphosphate), and contains no animal bone whatever. The name is given in consideration of the existing prejudice against the rock phosphates.

* * *

Let me quote another paragraph or two from the mentioned bulletin. Mr. Thorne says:

"Naturally those who are engaged in a profitable business object to having their profits curtailed by additional competition. The fertilizer trade is no exception to this general rule, and farmers are persuaded that the compounding of fertilizers is an intricate and difficult operation, requiring extensive acquaintance with chemistry, costly machinery and great technical skill. . . . The production and manufacture of fertilizing materials, that is, the selection, quarrying, grinding and acidulation of phosphatic rock; the drying and grinding of slaughter-house refuse, the production and refining of such materials as nitrate of soda, sulphate of ammonia and muriate of potash—all these are distinctly manufacturing processes which require chemical or technical knowledge, skill in manipulation and expensive machinery. But these operations are entirely separate and distinct from the compounding of mixed fertilizers. Each of the materials named comes from the manufacturer in condition to be used by itself as a fertilizer, and each one is so used for special purposes. The compounding of these materials under a proprietary brand into a mixed fertilizer is no more a manufacture than is the mixing of a ration of corn-meal and bran to be fed to a cow. The only difference is that the ration which is designed to be distributed uniformly to thousands of millions of plants requires to be more carefully mixed than that fed to a single cow. If we were feeding each plant by itself no mixing would be necessary, or if we were giving the different elements of a ration at different times; as for instance, when we apply superphosphate and muriate of potash to wheat in the fall, and follow with nitrate of soda in the spring. This point of the essential difference between those operations which are legitimately called manufacturing and those which are simply mixing should be clearly understood. When the farmer learns that he can mix his own fertilizers, and thereby materially reduce their cost, the use of fertilizing material will be largely increased, and the final outcome will be a benefit and not an injury to the legitimate trade in fertilizers."

* * *

Cost of Home-mixed Fertilizers.

That plant-foods can be bought much more cheaply in the form of standard chemicals than in that of ready-made mixtures is undisputed. The fertilizer-men themselves tell us that their trade is built upon a system "which involves large expenditures for the salaries and traveling expenses of general agents, for commissions to local dealers, for interest on credit sales which probably comprise the greater proportion of all sales made at present, and which lead to heavy losses from bad debts." All these items must be provided for in fixing the price of the fertilizer; especially must the interests of the general and local agents be looked after, and therefore the price of the fertilizer in the branded sack cannot be reduced below a point which covers these interests; but in buying the fertilizing materials at first hands, all these intermediate expenses are avoided. Both tankage and acid phosphate may be brought direct from original manufacturers, whose business stands on the basis of direct sales to cash buyers. In other words, if you

have the cash to buy your plant-foods you are in the position to get them in their original forms at a great reduction of cost; if you have not the cash you will be obliged to buy on credit and pay the higher figures asked for the ready mixtures, or do without commercial fertilizers. In most cases I would prefer the latter course.

* * *

The Matter of Mixing.

Some of the people who are interested in the sale of the ready mixtures try to prejudice the farmer against the use of the cheaper standard chemicals by setting up a bugbear. They say it takes costly machinery and great skill in order to mix fertilizers properly and as thoroughly as is absolutely necessary for securing the most satisfactory results from them. To show the utter absurdity of such contentions, let us see what Director Thorne has to say on the subject: "It is claimed that the special machinery employed in the large scale mixing of fertilizers produces a more perfect mixture than can be made with so simple an outfit as a shovel on a barn floor, and this is probably true. It is also true that however thoroughly these materials are mixed together, when they are transported long distances after mixing the finer and heavier particles will settle to the bottom, and by the time the fertilizer-sack has reached the field its contents are likely to be in a not more perfect state of mixture than when mixed in the farmer's barn. There are those who claim that the highest perfection in mixing is only attained by what is called 'wet mixing,' a process in which the materials are treated with acid and allowed to lie for some time before the final grinding and sacking. Aside from the fact that very few, if any, manufacturers are now using this method, it must be remembered that when the material becomes dry enough to use in the fertilizer-drill it will be dry enough to separate in transportation, and the finer and heavier rock will tend to settle and the coarser and lighter tankage to rise. The farmer therefore need have no fear that he cannot mix his materials quite sufficiently for practical purposes, if the work be done with reasonable thoroughness." It remains to be said that other stations, notably that of New Jersey, Rhode Island and Connecticut, after thorough investigation of the subject, have come to the same conclusion as the Ohio station.

* * *

This matter of the purchase and use of fertilizers is of much importance just at this time of sowing wheat and other winter grains. The one standard chemical which will be found of especial use and effectiveness in grain-growing is acid phosphate, which can be bought at from \$7.50 upwards a ton, and which contains from eleven to fifteen or more per cent of phosphoric acid. The Ohio station also recommends tankage. In recent experiments the effect of phosphoric acid seemed to be especially marked in the early life of the plant. "The plots which have received potash or nitrogen without phosphoric acid could not be distinguished from the unfertilized plots until later in the season; hence the importance of an early supply of available phosphoric acid to start the young plants and give them vigor to begin foraging for themselves at the earliest date possible. If, to plants thus started, a continuous supply of fertility is offered in materials becoming available throughout the season (as for instance, in ordinary tankage), the best conditions for maximum crops will have been given, so far as the supply of food is concerned." If farmers will learn to understand all these points they will be able to save money, and get best results at least cost.

T. GREINER.

SALIENT FARM NOTES.

Review of Season's Work.

This month closes the crop year. We now know what we have done and what we have left undone. If we made some bad mistakes at the beginning of the year's campaign we can now see the result. If our preparation of the soil was defective, if the seed we planted was poor, if we failed to fertilize, if cultivation was insufficient, the crops show it now. It is too late to remedy our mistakes this season, but we can profit by them. We can jot them down in our memory for future reference, and thus avoid a repetition of them. Scarcely a farmer lives who has not made more or less mistakes this season, and in nine cases out of ten they were mistakes of omission—he neglected to do a thing at the proper time, or thoroughly.

Lack of Thoroughness Is the besetting sin of most farmers.

This and dilatoriness are, oftener than many suspect, the sole cause of failure in farming. I know two tenants who have eighty acres divided between them. The tract all slopes gently in one direction, just sufficient for good drainage. The soil on every acre is alike and very good. Both men have good teams and very fair outfits of tools, and both seem anxious to do well. Why shouldn't their crops be equal. There is, to a casual observer, no reason why. Then how does it happen that the corn on one man's tract bids fair to make over fifty bushels to the acre, while that on the other will do well if it makes twenty-five bushels?

* * *

Promptness and Thoroughness

Is the motto of one of these men, while the other "farms like most other people, and sometimes he hits it and makes a good crop, and sometimes he misses it—depending altogether on the season!" It would seem that this unsuccessful man would take note of the operations of the other and adopt his methods; but up to the present time he shows not the slightest inclination of doing anything of the sort. He says he does not care a copper what the other fellow does; nor how he does it, he knows as much about farming as anybody!

* * *

Landlord and Tenants.

A landlord complained to me a few days ago that one of his three tenants is "no good." His management is poor and his work is poor, and, naturally, his crops are poor. "Either of the other two men will raise twice as much on the same quantity of land," said he, "and I will have to get rid of him."

"What rent do all these men pay?" I asked.

"Two fifths of the crop, delivered in market."

"Wouldn't it pay you better to rent to thoroughly good farmers for one third than to soil-butchers for two fifths? Wouldn't a living chance to make something for himself be a great incentive to a good, live man to do first-class work and raise maximum crops? Wouldn't one third of a full crop be better than two fifths of a half crop; say nothing about the satisfaction of having a well-kept, clean farm?"

But he was perverse. "If a man does not want to pay me a fixed rental," said he, "he need not apply to me for land."

"Grasping landlords make dishonest tenants of good men!" remarked an old farmer who had overheard the conversation.

There are two sides to all questions. When a man secures a thoroughly good tenant who raises good crops and makes money it is far better policy to lower his rent than to raise it, as is often done. When a tenant finds that his landlord is sufficiently interested in his welfare to grant him substantial favors, then he should leave no stone unturned to prove that the confidence reposed in him and his work is well deserved.

* * *

Winter Wheat.

The experience of the past season proves very plainly that it is best to sow winter wheat at the proper time. That sown late last autumn came up all right and the plant made a good rapid growth, but it was too late. The growth of straw was satisfactory, but the heads did not fill well and the grain was small. Rust caught much of it, and this was hardly worth harvesting. That sown early on well-worked land—land that was in first class condition—yielded fairly well. All it was injured to some extent by rust, but the early-sown escaped the sweeping damage done to the late-sown.

* * *

Winter should find the wheat-plant strong and well and deeply rooted and with sufficient leaves to fill the drill-furrows full. When it goes into the winter in this condition the chances are good that harvest-time will find a full crop of well-filled heads of plump grain. For fitting land for sowing I know of no better tools than the disk and harrow. After the land is plowed—which must be done early to be done well—repeated disks and harrowing will reduce the surface to the proper degree of fineness and at the same time pack the soil just right to insure quick germination and a strong growth. Most farmers stop working the soil just as soon as they get it fairly level—just when it is in the best condition for working. It should be harrowed and disked and planked (not rolled) until it is as fine as a garden.

FRED GRUNDY.

Our Farm.

FARM THEORY AND PRACTICE.

SEEDING TO GRASS.—When the price of wheat fell to a very low point a few years ago there was increased interest in methods of getting stands of timothy and clover without any nurse crop. The low price of wheat largely caused the extensive experiments with crimson clover, as it should be sown alone in corn-fields or on bare land in the summer, and there was much discussion of the advisability of seeding to timothy and to red clover without wheat or oats as a protection. While the present crop of wheat should command fair prices, the prospect of speedy return to low prices calls attention to results of some station experiments with seeding direct to grass. It is now well understood that any sort of a nurse crop retards the growth of

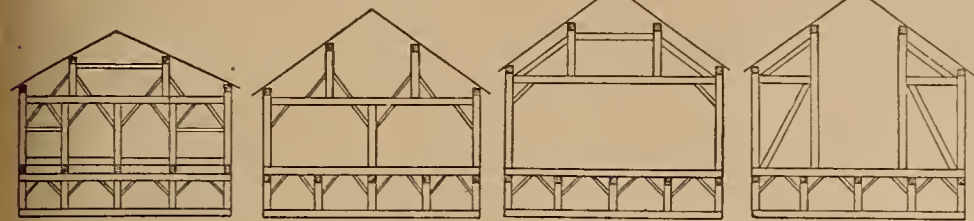


FIG. 1.
OLD STYLE.

FIG. 2.
STYLE OF THE 70'S

FIG. 3.
TRUSS SYSTEM.

FIG. 4.
OPEN BENT SYSTEM.

timothy or clover sown in the spring, and it is not seeded for protection of the young grass against the hot sun, but for other reasons. One advantage of a nurse crop is in choking out the weeds that would otherwise take the young meadow, and in foul soil this is a necessity. In clean ground spring-sown timothy or clover will make a sod most quickly when seeded alone. But timothy is surest of making a catch when seeded in the fall, and during winter a nurse crop is often beneficial. On this point Mr. McLain Smith gives his experience as follows: "The larger growth of wheat holds the snow better and affords a mulch and some protection from freezing and thawing in the early spring. It has seemed to me, also, that our stiff clay lands do not beat down so hard through the winter when seeded to wheat, and are in better condition to receive the clover in early spring. For these reasons we have abandoned the plan at Riverside farm of seeding to grass without a nurse crop, and in the future shall sow wheat with timothy or other grass-seed in the fall, and clover early in the spring." This experience as given by Mr. Smith is similar to that of many farmers who have tried to drop wheat out, and while some station experiments are favorable to the omission of a nurse crop, its use in practical farming is safer and more profitable, as a rule, than a short cut to grass by seeding without grain.

A CHEAP WHEAT CROP.—There is another advantage from seeding wheat with timothy in the fall. As meadow is the prime consideration, the ground must be well prepared for seeding, and in return for this expense we usually have only a light hay crop the first year. In its stead a wheat crop may be obtained at small added expense. Wheat must be very low in price, indeed, if it does not yield more money than a bay crop the first year, even after the cost of seed and extra expense of harvesting have been deducted. I have seen a fairly heavy crop of hay from plants ten months from seeding without a nurse crop, but usually the yield is light; and it is business to grow a wheat crop while the grass-roots are forming a sod, especially when the cost of the wheat is a small item beyond actual cost of the seed. The small actual cost of a nurse crop, when establishing a timothy meadow, the choking of weeds and the winter protection given combine to make one dissatisfied with efforts to drop wheat out, and it will remain fixed in our rotations regardless of market prices.

GRASS FOR PASTURE.—When pasture is wanted at once the case is different. Wheat may then be dropped out to advantage. Rye is one of the best crops with which to sow timothy and clover when pasture is wanted. It furnishes grazing early in the spring, and the conditions are favorable for the growth of the grass. It is the experience of some that a stand of clover can be secured in rye, used for pasture, when it cannot be secured in wheat at all. The rye should be sown early in September with timothy, thin spots should be top-dressed during winter, and a seeding of clover with light reseeded of tim-

othy given in the spring, when immediate pasture is the main consideration. Thin, rough land can be handled with greater satisfaction in this way than in any other.

FERTILIZER FORMULAS.—The North Carolina station says: "The farmers of this state are urgently advised not to pay any money for fertilizing formulas, as the station is ready and willing to suggest any mixture for any crop, using any materials at hand or most convenient to be had. It has in the past distributed many hundreds of these formulas, and is distributing them every day. These formulas are sent out entirely free, and are made up in proportions that are known to be correct, not only from a scientific, but a practical standpoint." Our stations would do well to warn the farmers against the investment of good money in formulas for the compounding of fertilizers for their crops; not because they can get

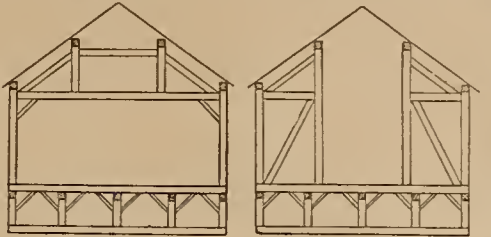


FIG. 5.
SELF-SUPPORTING SYSTEM.

FIG. 6.
SHAWVER SYSTEM.

FIG. 7.
LOCKHART SYSTEM.
(Patent applied for.)

FIG. 8.
HALL SYSTEM.
(Patented.)

such formulas free from the stations, but because such formulas are practically worthless, except as some are found to be suited to the wants of the particular soil and farm of the man making the experiment. Too great claims have been made for the value of certain formulas for certain crops. To illustrate: For years big prices were paid for certain potato fertilizers that were supposed to be just the thing because the percentage of potash in them was very high. Potatoes, we are told, is a "potash crop." But we now know that on farms the best potato fertilizer is one rich in phosphoric

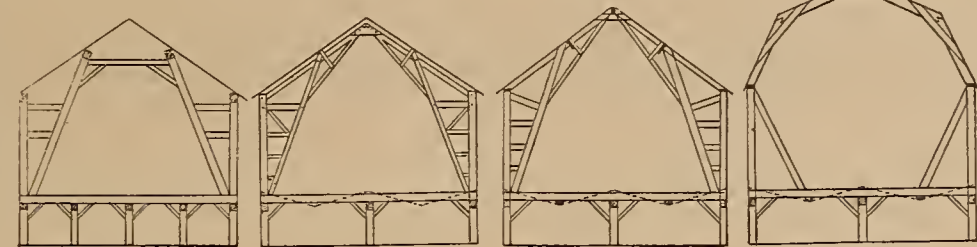


FIG. 9.
HICKOX SYSTEM.

FIG. 10.
SCHEIDLER SYSTEM.
(Patented.)

FIG. 11.

acid. Until a doctor may safely prescribe for his patients without seeing them no one can safely say that a certain formula, calling for proportions of nitrogen, phosphoric acid and potash, is "known to be correct" for a farm upon which this formula has not been tried. We farmers must learn that the best proportion of the elements for our farms and crops will be determined exactly only by individual experiment. Nearly forty millions of dollars are annually expended for commercial fertilizers in this country.

They contain one, two or three well-known elements. We buy them in order to get these elements. We should use them in various proportions until we know what ones are needed in our soils for our crops. We may get good advice from our stations, and learn within what lines to experiment, but we should not accept the statement that a man hundreds of miles away can give us a cut-and-dried formula that is with certainty the cheapest and best for us. We must be willing to experiment for ourselves, if we want to invest our money intelligently in plant-food. Send for Bulletin No. 93 of the Experiment Station, Wooster, Ohio, and learn how easily you may master the names and sources of the elements and how easily you may combine the elements for experimentation on your land. DAVID.

BARN-BUILDING.

While great improvements have been widely heralded in every other field of human progress, the improvement in the matter-of-fact business of barn-building has not yet become generally known. Nevertheless, the improvements in this line during the past quarter of a century are worthy of consideration by every one interested in progressive agriculture; for it is only by means of good barns that the husbandman can utilize his crops to the best advantage. Not only are the barns built much larger and more convenient than they were in the first half

of the present century, but they are being built better, more attractive and more cheaply. It has been the privilege of the writer to watch the changes that have taken place in barn construction, and the object of the present article is to present some of the facts thus learned to the reading public.

Fig. 1 represents an old-style frame such as was common from 1840 to 1860. The basement timbers were sometimes fourteen inches square, and seldom less than ten inches square, and it required from eighty to one hundred men to raise what to-day would be called a small barn. It was a difficult matter to store away hay or grain, because the timbers were always in the way. These barns were seldom more than twelve or fourteen feet above the basement, and many of them were not over ten feet.

With the advent of hay-forks and the grain-separators of large capacity it was found necessary to get rid of the tie between the purlin-plates and some of the timber below the beams. This led to the style shown in Fig. 2. This was followed a little later by the forms shown in Figs. 3 and 4, grain farmers preferring Fig. 3, while hay farmers preferred Fig. 4; but both of these were found to be faulty, the former gradually settling at the center and marring the shape of the roof, the latter eventually spreading, with the same result.

Builders next sought to dispense with the cross-beam and provide for an open center, yet bind the frame together at the top so as to provide against either spreading or collapsing; and this led to the introduction of the form illustrated in Fig. 5, which pleased grain farmers very much, but was not satisfactory to hay farmers who desired to use hay-slings, as the space between the cross-tie and the roof was too small to swing much hay, except in large barns and pretty steep roofs.

With the scarcity of timber and the coming of hard times farmers in many instances were depriving themselves and their stock of the advantages a good barn afforded, because it required too much timber and too much cold cash to build. This led to the in-

comes in that state and in northwestern Ohio.

Fig. 11 is the gambrel-roof applied to Fig. 6. The gambrel-roof gives more storage-room, but requires more roofing material; and since the roof is the most expensive part of a barn, Ohio farmers prefer to add four feet more to the height of the posts and use a gable-roof. In Michigan and Wisconsin, however, the rule is to have gambrel-roofs only.

Figs. 8 and 10 will not admit of a gable-roof. Fig. 7 will not admit of a gambrel-roof. Figs. 6 and 9 may provide for either a gable or gambrel roof.

The frames represented by Figs. 1, 2, 3, 4 and 5 are for square timbers. The last six are all plank frames. Now, we have given the various forms, and the reader who contemplates building a barn may study the merits of each and make his choice.

JOHN L. SHAWVER.

TURNIPS AFTER BUCKWHEAT.

The opinion that buckwheat is a bad crop to precede turnips is very generally held by the farming community, some farmers going so far as to say that it acts as a poison not only to turnips, but to other crops. The following experiment may throw some light upon the subject:

A piece of land that had already produced turnips was divided, one half being sown to buckwheat, the other being fallowed. When the buckwheat was ripening it was cut, passed through a feed-cutter, the chopped stuff returned to the soil from which it was cut, and then turned under. In a short time a stand of young buckwheat appeared and was allowed to grow a few inches. Both plots were then spaded and sown to turnips. In every respect, save the growing of the buckwheat upon one of them, the two plots were treated alike.

When the crop was harvested the salable roots upon the buckwheat plot weighed more than four times as much as the salable roots upon the fallowed plot. The salable roots were much more numerous and smaller upon the fallowed plot. M. G. KAINS.

GROWING EARLY POTATOES.

The early potato is a choice luxury, and to supply the market a most desirable object of the gardener. My experience in the past two years has been highly satisfactory, and I have been wonderfully successful in getting not only the earliest potatoes, but the best yields I ever witnessed in a valley 7,000 feet above sea-level. This year I had fine marketable potatoes the middle of June, and practically controlled the local market for thirty days, selling at twenty-five cents a half peck, which was a half cent on the pound cheaper than dealers could sell imported tubers. The seed was the Early Ohio, and was planted March 10th, but the vines were partly killed May 20th by frost, thus setting back the date of maturing at least two weeks. But the vines renewed their growth, more tubers set on and the first yield was one third more than any other early potato I have yet tried.

The land was plowed, harrowed and leveled March 5th and left undisturbed until planting-time. Potatoes were cut in as small pieces as possible, leaving one eye to a piece,

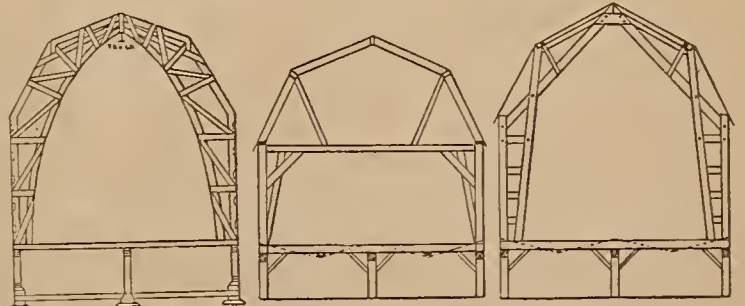


FIG. 9.
HICKOX SYSTEM.

FIG. 10.
SCHEIDLER SYSTEM.
(Patented.)

FIG. 11.

production of the various systems of planning barns entirely of plank. Of these various forms, that shown in Fig. 6 is most widely known and in more general use; not alone because it possesses merits which the others do not, but because the originators of other systems have preferred to protect their ideas by letters patent and to sell the right to construct to individuals, the charges varying from fifteen to twenty cents a foot in the length of the barn to be constructed. In Fig. 6 two planks are used for the purlin-plates, and these rest on top of the roof support, permitting of splicing the rafters on the purlin-plates. The main plates are also made of two planks, one to resist the weight of the roof, the other to resist the outward pressure. In Fig. 7 one piece used for plate and purlin and a ridge-pole are inserted. Each of these is two by twelve or two by fourteen. The roof support is raised so as to take the place of a rafter, which necessitates that it should be two by twelve, and the purlin-plate comes five inches below the roof support. The rafters are to be full length. Mr. E. P. Lockhart is the originator of this system.

Fig. 8, the Hall system, eliminates nearly all interior timbers and answers very well for small barns not over twenty-eight or thirty feet wide; but for wide barns, the writer was informed by Michigan farmers where the system is in use, it has not proven sufficiently strong.

Fig. 9 is the system advocated by Mr. Hickox, near Cleveland, Ohio, and the illustration is taken from the "Ohio Farmer."

Fig. 10 is the Scheidler system. This is a Michigan invention, also, and has its advo-

where they could be easily separated, and left a few hours to dry. The patch was furrowed with a small plow, going up and back in the same furrow. The rows were made about thirty inches apart and seed dropped one piece in a place, to average something like four inches between hills. After dropping the potatoes I filled the furrows to the depth of probably two or three inches with well-rotted manure from an old straw-stack, then covered with a similar depth of earth thrown from either side by the plow, and rolled the entire land thoroughly. Of course, I had to irrigate, but that was not begun until the plants were about ten inches high, after which the ground was kept moist till the potatoes were ripe.

JOEL SHOMAKER.

Our Farm.

NOTES FROM GARDEN AND FIELD.

LATE PEAS.—In August 1st issue of FARM AND FIRESIDE a slip of the pen (or of the printer) made me say that "here it is almost the middle of August." A subscriber asks me rather sarcastically whether I wrote that last year or whether I make my experiments on paper only. Let me say to this that the FARM AND FIRESIDE never prints stale stuff. It has no need of that when fresh material can be had at all times and when this paper fears no expense in order to get it fresh. Besides, we are learning new things every day. What was gospel truth last year may be looked upon as a plain error this year. Our teachings change from year to year, not only in minor details, but often in their essentials, as new facts and truths are revealed. It has happened to me a few times that a paper laid some of my manuscript aside and then published it a year later. Once this happened in a station bulletin, too, if I remember correctly. But I was never satisfied with the matter as it then appeared in print. I felt that if my manuscript had been submitted to me again before it was put into type I could have greatly improved it, or modified some of it to suit the newer conditions of our knowledge of things.

The reader who thinks that I experiment on paper should come and look over my grounds. I can show him the rows of Horsford's Market Garden peas that I planted about the middle of July (not August), or a little later, and which I expect will give me good messes of the most delicious green peas during a large share of next month. They have received a good hoeing; and then the carpet of coarse manure spoken of in the issue of August 1st was put on. Should there be any danger of mildew with this treatment, I shall spray the vines with a solution of liver of sulphur. This pea variety (Horsford's Market Garden) has done excellently for me as an earlier sort. I have picked peas for market from a few rows of them for several weeks right along. In fact, I had more peas on them all the time than I was able to pick with my available forces, and I had to let a good share of the crop get ripe. It is an excellent sort in almost every respect—rather early, pods well filled, and the peas of large size and good quality. I will admit, however, that crowded pods are not so much a characteristic of certain varieties as they are the result of available plant-food in the soil.

FALL CROPS.—You will now also find in my garden fresh rows of radishes (both summer and winter), spinach, lettuce, corn-salad, endive and turnip. I forgot to sow a row or so of some quick-growing carrot and early table beets (Eclipse), but will sow them at once. I like to have some fresh, tender carrots for my soups late in the fall and during winter. The recent rains have started all these crops nicely, and on the whole I am now at this time as proud of my garden as I was at any other time earlier in the season. The plants grow very fast and soon outgrow the weedy stage. I go over the rows a few times with the wheel-boe, and thin where the plants are too thick in the rows—that is about all the work I ever do among these late garden crops.

The pickling-onions (Barlettas) have been harvested and are now nicely cured and being put on the market. The patch has just been plowed, and in a day or so will be sowed to spinach. This crop will be ready for market and home use late in the fall. Then I sow another row or two of winter radish. My Prizetaker onions were planted near the barn. A part of them has been pulled and cured. I take a few bushels to market every market-day, and now sell them readily at about seventy-five cents for a one third bushel basketful. The ground now cleared from the crop is being plowed and put in shape for sowing to rape. This grows fast and makes a lot of the very best fall pasture for my poultry. All fowls seem to like it, and so does other farm stock. If I had sheep I would surely sow larger pieces of ground with rape. The next strip cleared from Prizetaker onions will again be used for spinach. This is intended to be wintered over for spring greens.

OATS AND PEAS.—There are, of course, other patches that become available for

planting again. The early potatoes have been harvested, and the old pea-vines have been cleared off, etc. We are done with the early cabbages, too, and from the field comes a smell that is anything but pleasant. The stumps have to be removed, anyway, for that reason. All these patches, if left untouched, will grow weeds and soon become an eyesore to me and to all who pass them. I plow up one patch after another, as I find a little time, and if there is no other crop I wish to put in I sow oats and peas. I have several such pieces now growing. The green stuff will come very handy to feed to the cows later on; but even if these crops could not be utilized in this way, they make a good winter covering for the soil, and surely they do away with the weed nuisance at this time, and make the whole grounds look clean and neat.

A GOOSEBERRY HEDGE.—In one of my papers I notice the suggestion of a gooseberry hedge. I think it is a good idea. If some of my Columbus bushes were trained to a wire fence they would not only form an impenetrable hedge, but give a lot of fruit and a fine chance to gather it besides. My crop of Columbus gooseberries was immense this year, and I had ready sale for these great berries at five cents a quart. As each plant yielded from eight to ten quarts of fruit, you can make your own estimates of the returns that might be expected at this rate from a patch. Such a patch is perhaps just the spot where a carpet of coarse litter should be provided. Some of the weeds cut in the fence corners or in any out-of-the-way place, marsh-bay or any similar material, where fresh manure is not available, will do just as well. Put it on thickly enough to cover the ground to the depth of several inches, so as to keep down all weeds. It will keep the ground cool and moist and prevent mildew even in varieties of gooseberries quite subject to it.

THE LATE CAULIFLOWERS.—The manure mulch on the ground around my late cauliflowers (from seed sowed right where they now stand) is doing good work. The plants are making a wonderful growth. Of course, we have had good rains recently, and the plant-foods were probably largely washed out of the manure and carried into the soil. I expect to grow very fine heads.

T. GREINER.

REMOVING WHITE LEAD SHADING.

It will soon be time to remove the shading that has protected plants left in the greenhouse during the hot months, and as this is usually a difficult process, any improvement upon the old scraping method should be welcomed by the florist, particularly if by its means there will likely be a small breakage of glass. The following practice pertains to the white lead shade only. This shade is most frequently applied by means of a spray-pump, the lead being held in suspension in naphtha, which quickly dries off, leaving the lead sticking so firmly to the glass that its removal is very difficult.

Acetic acid, which is the principal acid of vinegar, readily dissolves white lead, and when applied to this kind of shading will remove it. Experiment has shown that a mixture of about four parts of water to one of strong vinegar has made a very satisfactory spray where the liquid could be caught and used over again, part of the acid being still active. When the liquid cannot be collected it is best to apply the vinegar undiluted as a very fine spray in just sufficient quantity to moisten the shade, and to follow this wetting down immediately with a strong stream of water. It will be best to choose a cloudy, cool and still day for this work, especially when the vinegar is undiluted, because there will be less loss from evaporation and a consequent gain in effectiveness.

Sometimes the operator may find that the mixture is apparently useless, since the shade or part of it will stay on in spite of everything. In such a case he has probably been imposed upon when purchasing the lead. This substance is frequently adulterated with barium sulphate, chalk and other substances which are not soluble in acetic acids and which are of little value as paints. The only thing to be done is to scrape the stuff off in the usual way. However, when an adulteration is suspected, it will still be well to apply the acid and thus remove any lead that may be present before scraping, since the barium sulphate, being a poor adherent, may be much more easily scraped off when honeycombed by the removal of the lead.

For a simple method of detecting adulteration of white lead, see FARM AND FIRESIDE of October 1, 1897. M. G. KAINS.

ORCHARD AND SMALL FRUITS.

CONDUCTED BY SAMUEL B. GREEN.

Fungus and Insects on Cherry Twigs.—E. E. A., Pittsburg, Kan. The twig received from you is black with a fungus that works in the honeydew secreted by leaf-lice, so the tree must have been thus infested. I am not certain what insect did the injury to the stems by boring into them, but it looks like the work of some snout-beetle, which probably worked at night or in the early morning. I think you would catch them by jarring the trees as recommended for the plum-curculio in these columns.

Borers.—J. L. B., Menooka, Ill. Your cherry-trees are very likely affected by borers, and the gum comes out where they have been at work; but it may be due to a gumming disease brought on by the hot sun shining on the branches. If the work of borers, dig them out; if the gumming disease, remove the diseased branches and shade the trunk by wrapping with heavy wrapping-paper or similar material. Tar-paper is bad stuff to wrap around the trunks, and often kills the bark under it when so used.

Cottonwood Leaf-aphis.—H. M., Villard, N. D. The pocket-like affair into which some of your cottonwood-leaves have been transformed is the result of the presence of what is known as the cottonwood leaf-aphis, or leaf-gall lice. It is quite common in the northwestern states, and often in consequence the trees have a few dead leaves hanging on the ends of the branches over winter. The life history of this insect is not known, but it is supposed that one generation at least is lived on the roots of some plant other than the cottonwood. The pockets contain no lice in winter. This insect does not do any serious injury. If you wish to destroy them, the proper treatment would be gathering and burning the deformed leaves in winter.

Galls on Plum-leaves.—J. A. K., Meriden, Wyo. The small pointed galls on your plum-leaves are caused by a little mite known as Phytomyza pruni. They cause the galls by eating into the leaf, and live during the growing season within them; in the autumn



LEAF-GALLS.

they pass to the tree, and the females lay eggs in the fuzzy down near the buds. Spraying in early spring, before the leaves expand, with strong kerosene emulsion or whale-oil soap would be likely to destroy them. They do not move readily, and often one tree will be affected and none others near by for several years, when they will disappear for several years. They seldom do much harm. When only a few galls are formed they may be destroyed by hand-picking in June or July.

Trouble With Raspberries.—F. M. E., Andover, Mass., writes: "What is the trouble with my cultivated red raspberries? They grow by the side of a fence, and part of them are very unhealthy looking. The leaves are curled and partly yellow, and the fruit very small, while those close by are all right. Is it anything in the ground or an insect or disease that causes it, and can you give me a remedy?"

REPLY:—It may be caused by insects, disease or by accident. If the trouble has come on suddenly I should hardly think it disease, as I do not know of any that acts in this way. Your description answers very closely to raspberries that are suffering from drought. Please look them over carefully again and note any unusual appearance, and send sample of the injured plants.

What Buds to Use in Grafting.—C. B., Parallel, Kan. Any of the buds will grow if properly inserted, but buds from the largest and thickest shoots generally withstand the winter better than those from smaller, immature wood, which are liable to drop off, leaving the bark attached. The triple buds on the older and more matured shoots of bearing trees often survive when the single buds above them kill out. Apricot and plums can be worked on peach stocks, but plum stocks are generally preferred for them. Budding should be done during this month, and if the weather has been very dry, so as to cause the stocks to stop growing, it may even be too late; while if there has been abundant rainfall the work may be continued into September. The bark must separate readily from the stock in order to have the work successful.

Crops in Orchard—Book on Fruit-growing.—R. A. W., Finlow, W. Va. It is a poor plan to sow grains in an orchard, because they entirely prevent cultivation, take a great deal of expensive plant-food from the soil, do not protect the soil from the sun, and leave very little humus in the soil. While clover prevents cultivation, it furnishes a fine soil cover and improves the land on which it grows. Cow-peas are a good crop in the southern states to take the place of clover,

and act much the same way in improving the soil on which they grow. Rather than seed down to grain I would not use clover, but sow cow-peas and plow them in. It should be borne in mind that orchards need careful cultivating or cover crops, such as cow-peas, clover, buckwheat, etc. It might be well to sow turnips or huckwheat now for plowing in next spring or this fall.—The best work for you to study on this subject is "Principles of Fruit-growing," by T. H. Bailey, published by the Macmillan Co., New York City.

Apples Dropping Off—No Danger from Sprays.—W. H. P. M., Jacksonham, S. C. It is probable that your horse-apples drop off early or are knotty because of insect injuries. Probably the codling-moth worm causes them to drop, and the apple-curculio makes those that ripen knotty. These are very troublesome insects, and nothing can be done this year to reduce their injuries; but they must be attacked early in the spring by spraying with poisonous compounds, the best of which is Paris green and water or Bordeaux mixture containing Paris green. The fruit should be sprayed several times, commencing immediately after the flowers fall, and repeating the operation once in two weeks, or oftener, if the weather is rainy, for six weeks.—There is no danger of calves, colts or poultry being poisoned by Paris green, when properly applied. For this purpose it should be used at the rate of about one pound Paris green to one hundred and twenty-five gallons of water. Dr. Cook, of Michigan, showed by repeated experiments that horses fed on grass that was frequently sprayed with Paris green and water in this way were not injured. London purple would not be more poisonous than Paris green. After a good rain there is no Paris green left on fruit or grass that has been sprayed.

Canker-worms.—W. W. F., Nashville, Tenn., writes: "My apple-orchard was infested last spring with what we call measuring-worms. The trees had a heavy bloom, and I thought I would have an abundant crop of apples, but I went into the orchard some time after they bloomed out and found that the blooms were dying and dropping off."

I began an investigation for the cause, and at once found thousands of these measuring-worms on the leaves, branches, and, in fact, all over the trees. The leaves were cut full of holes, and upon close examination I found that the stems of the bloom and young apples were cut off where they unite with the limb. These worms are from one half to one and one half inches in length, some perhaps longer, and from the size of a thread to that of a small broom-straw. In moving or traveling they bring their ends together. Will you tell me the name of the worm and how to keep clear of them in the future? They also worked on the cherries and almost destroyed the crop, but did not damage the peach crop."

REPLY:—Your apple crop was undoubtedly injured by the canker-worm, which is a great nuisance, yet one of the easiest to control if proper care is used. This span-worm attacks the elm, plum and basswood as well as the apple. Its life history is as follows: In the winter and very early in the spring there will be found on the smaller branches of the trees small, grayish patches of eggs, containing from sixty to one hundred and sixty each. These eggs hatch about the time the leaves unfold, and the worms begin at once feeding on the new growth.

At first they make small holes in the foliage, and finally devour all the pulp and fruit. When mature the worm passes to the ground, either by crawling down

the trunk or by a silk thread, where it undergoes its changes. It issues from the ground in the late autumn, during the winter months or in early spring. The female is wingless, which accounts for the slow spread of this pest, and on emerging from the ground climbs up the trunks and lays her eggs. Remedies:—The necessity for the female climbing up the trees has led to the practice of surrounding the trees with a narrow strip of heavy paper or canvas on which is kept a band of fresh printer's or tree ink, in which the worms get stuck. However, this band of ink must be kept fresh from October to April, or the dying females will soon form a bridge for those coming later. Another way of preventing the females from climbing the trees is by surrounding the trunks with a small zinc trough, with a cover to keep out water, which is kept filled with crude petroleum. A very effective remedy is also found in spraying the leaves of infested orchards early in the spring with Paris green and water. It will be seen from the foregoing that watchful care is needed to get rid of this pest, but there is no insect more certainly controlled if proper precautions are used. It is reported that a perfectly safe and good mixture for applying to the trunks of trees to take the place of ink may be made by melting together, without boiling, three pounds of white resin and two pounds of castor-oil. Bands of cotton batting about the tree-trunks also form a barrier to the worms.



CANKER-WORM.

Our Farm.

BOX-IRRIGATION.

BOX-IRRIGATION, as practised in many sections of the arid West, is a cheap method of saving fruit-trees and vines from the effects of drought, and might be adopted with profit by the fruit-growers and market-gardeners of the Eastern and Middle states. It is easily managed from any source of supply, such as wells, ponds, creeks or springs, and in dry seasons will return many times the cost in increased yield of fruits, melons and general vine products. The boxes are made of rough planks, usually about six inches square and eighteen inches in length, and inserted in holes a foot or more in depth a few inches from the trees to be irrigated.



BOX-IRRIGATION.

Water is filled in the boxes and left to find its way to the tree-roots, and down as the main tap-root conducts it, until the moisture is taken up by the many branches and rootlets. For vines the boxes are smaller, and may be made from old tin cans, buckets, pieces of tiling or any discarded vessel.

A favorite and handy device for conveying water from the source to the boxes is found in Texas and Arizona, and consists of a barrel fastened to a two-wheeled cart or truck. The barrel is filled and then wheeled about by hand to the several boxes, where the irrigation water is turned in by means of a short hose attached to the barrel. This places the water where needed, precludes all possibility of waste and overcomes the objections to surface-irrigation. The trees grow more thrifty and are therefore less attacked by insects, and blight. Roots penetrate to a greater depth, giving the tree a firmer hold and preventing sprouts from coming up, as they frequently do all about a surface-irrigated tree. The ground can be cultivated at any time, and the surface soil is free from water, grass and noxious weeds brought on by surface-irrigation. An orchard, vineyard or melon-patch treated in this manner will yield better, more uniform and salable fruits, and the fears of drought be banished.

JOEL SHOMAKER.

FRUIT NOTES.

A six-year-old Jonathan apple-tree in my orchard was attacked by twig-blight last year, and a close examination last spring developed the fact that it was badly out of condition. I cut it back about half, and fearing that it might not promptly recover, I set a vigorous young tree about eight feet from it. If I have to dig it out the young tree will take its place. If it recovers I can remove the young tree. Tree-growers will note that I have two strings to my bow.

Among the small fruits, I would rather rely on the strawberry for profit than any other, although currants can be grown and marketed cheaply, and at a fair profit even at low prices. Of course, it will not pay to grow a poor lot of strawberries. The trash such as was largely found in our markets this year brought hardly enough to pay for the picking, often selling at three cents a quart. At the same time large berries that were picked with care and packed with discretion (top layers carefully and tastily arranged) sold quickly at eight cents a quart, and even more. I still grow the Haviland and Bubach, but have also planted largely of Warfield, Wilson, Lovett and Splendid. From Mr. Watkins I received a lot of the Mexican, and I will say that the plants were fine, and after their long journey from California through the mails arrived here in first-class order, so that not one plant failed

to grow. They were potted off, and will be kept growing under glass until the pots are well filled with roots, when the plants will be knocked out of the pots and set out in open ground.

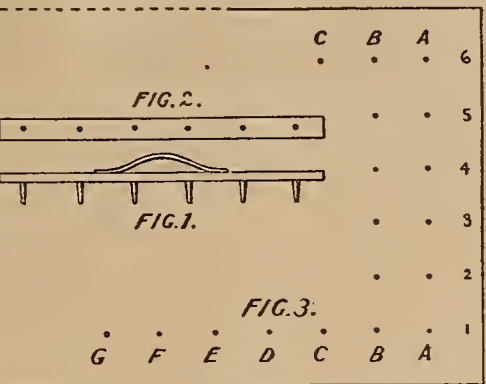
I have found it absolutely necessary to discard all sorts of small strawberries from my list for market. Buyers have become so accustomed to big berries that all small ones have no sale at lower prices. Besides, it does not pay to grow berries that take four times as long to pick a quart as it takes to pick other varieties. No berry so far has surpassed the Bubach for general marketing, and among the old varieties Sharpless, for a late berry, still holds its own. Marshall and Brandywine are excellent market varieties, and I am inclined to think that we shall all agree to make Bismark a standard berry. What is wanted is dark, rich color and size, but size at all events. Of course, those who intend to ship to a distant market must consider shipping qualities, but that I have not taken into account.

E. P. POWELL.

A HANDY MARKER.

A convenient marker is shown in Fig. 1 that will insure the setting of plants at regular intervals in greenhouse benches. For convenience of explanation let us suppose the greenhouse bench to be three and one half feet wide, and the interval between the plants to be seven inches. Select a piece of pine forty-two inches long, three and one half inches wide and three fourths of an inch thick. Bore a three fourths of an inch hole three and one half inches from each end of the board, and others at each seven-inch mark between them (Fig. 2). Drive pegs three inches long into each of these six holes, add a handle, and the tool is ready for use.

To operate, lay the tool across the bed and press the pegs into the soil, making holes 1, 2, 3, etc. (Fig. 3). Lift and turn the tool at right angles to the row of holes just made, putting the first peg into hole A, and pressing as before, making holes B, C, D, etc. Lift again, and with the first peg in hole B



A HANDY MARKER.

make row B B parallel to row A A, and soon. The writer has used this tool in transplanting thousands of lettuce-plants, and can testify to the neatness of the beds so laid off, as well as to the speed with which it can be used and the time saved thereby.

M. G. KAINS.

CUTTING CORN.

In cutting corn it has been the prevailing custom in these parts to shock twenty-five or thirty hills together, tie with two bands and let stand to cure. Some farmers husk in the fields before moving, some draw to the barns when sufficiently cured, to husk there during following rainy days and the early winter months, others watch their chance, and when fodder is pretty dry thresh with a common thresher, removing concaves first.

When corn is as it should be, heavy and well cared, a shock of twenty-five to thirty hills is a heavy lift for one man; often two men will have all they can do to lift the huge mass upon the wagon-rack. Then these monsters are difficult to handle for the man on the load. He can hardly place them as he wants to, and it is with difficulty that he can build a nice square load. The unloading at the barn and the disposing of the unwieldy bundles does not afford any pleasure; we cannot use the horse-fork very well and hoist up to the top of the mow in larger quantities, etc., so it is, all around, an unsatisfactory feature of our farming. We have come to the conclusion it does not pay us to put up our corn in large shocks, or bundles rather, except it is to be husked early in the field. In that case I would say the larger the shock the better. The machines now coming into use more and more for cutting and binding corn hit it about right. These machines, however, are costly, and in these sections, where farms are gen-

erally small and hilly, few farmers think they can afford to invest in them. But it seems there is nothing to hinder in following this idea of tying our corn in small bundles and setting up from four to six in a shock. In fact, some of my neighbors have already adopted such a system. To accomplish the most I find it advisable to take two rows at a time, slash right and left till one has about what he can well hold with his left arm, or about enough for a fair-sized bundle. This is tied before it is dropped. A band may be selected while cutting. Small, wilted corn-stalks or suckers, if big enough, answer well.

This may seem like a small item, but if we are foresighted and careful in the small things, these, summed up, guarantee success. After having handled and lifted the ordinary heavy shocks of corn, tugged on them till nearly exhausted, it seems just fun to handle the small bundles. They can be pitched onto the wagon easily, loaded nicely, and when drawn to the barn may be placed anywhere overhead on the scaffolds without difficulty, or they may be taken at once to the thresher. This drawing corn was always a job to be dreaded; it is not so any more.

F. GREINER.

THE STAR OF EMPIRE.

The following communication is from Governor J. R. Rogers, of Washington: Many years ago good Bishop Berkeley wrote:

Westward the course of empire takes its way;
The first four acts already past,
A fifth shall close the drama with the day:
Time's noblest offspring is the last.

This has been supposed to refer in a general way to the United States. It may be truthfully said that the course of empire within our own country has been as markedly toward the west. But this is not the whole truth. The course of empire has not only been toward the west, but it is clearly veers in a northerly direction. From the dawn of history civilization has taken its way to the northwest. Beginning, as many suppose, upon the plains of India, it has run through Egypt, Greece and Rome. When the struggle between Rome and Carthage began the stars in their courses fought for Rome. She was upon the north. At the present time the northern nations in Europe are the arbiters of fate. Russia, Germany, Britain, are the forces of the future. In our own country it has been the same. Two civilizations were planted upon our shores; one upon the north, the other upon the south. We know the result. Never, I think, in all the past has there been a struggle, a continued struggle, between a people upon the north and one upon the south in which victory was not for the north. Upon the Pacific coast it is the same. Fifty years ago gold was found in California. Until recently California came near being "The Pacific Coast." The star of empire has, however, appeared in the north, and the commercial emporium of the future will be unquestionably situated upon the waters of Puget sound.

Washington is a great state. Its natural opportunities are wonderful, but they are undeveloped. Somewhat larger than all New England, it has far greater natural wealth, a hardy and energetic people, a mild and favorable climate, and over all shines the sun of hope, for Washingtonians all believe the future has much in store for them.

EXTRACTS FROM CORRESPONDENCE.

FROM TEXAS.—Wallis station is located in the midst of one of the most fertile sections of southern Texas. The land is rolling, black, waxy and black sandy prairie, lying between the Barasos and the Colorado rivers. The country has numerous small streams that supply abundance of water for range stock. The banks of these streams are covered with a fine growth of timber, furnishing an abundance of fire-wood. The prairie-lands are very rich, and grow a great variety of crops; in fact, anything can be raised. We raise a great variety of fine fruits. Vegetables of all kinds do well. The winters are so mild that the most hardy vegetables are raised all winter. During the summer there is a pleasant breeze from the gulf. We have no sultry nights or sunstrokes. The country is not subject to drought or hot winds. Cattle do well all the year on pasture. Many fat cattle are shipped from the prairie to the market. We have good markets for everything we have to sell, as we are but forty-five miles from Houston and eighty miles from Galveston. We have a railroad to each place. We have good schools and churches, well attended. The people are very hospitable and invite and welcome all good people that come here. Health here is excellent. The water is good and easily obtained. Land can be bought in any sized tracts and on very easy terms. H. T. C. Wallis Station, Texas.

FROM FLORIDA.—The finest farm-lands I have seen lie just south of Micanopy, in Marion county. There is a section twenty-

five miles long by ten miles wide that for general fertility equals the best uplands of Tennessee. At least three fourths of this section is cultivable, but there is not over fifteen per cent in cultivation. There are four railroads in this section, and many beautiful homes. The people are generous and contented. The average price for farms here would be \$15 an acre. Near towns it is held at \$50 to \$75 an acre. In Citrus and Hernando counties there are just as rich lands that can be bought as low as \$3, but they are from five to twenty miles from a railroad. We have had the worst drought this season I have seen in fourteen years. I have recently taken a trip of one month through the country, and I have never seen land offered at such low prices. Any one desiring to invest in a Southern home can certainly do no better than now. J. V. S. Inverness, Citrus county, Florida.

FROM ARKANSAS.—This part of Arkansas has good crops. Oats turned out well, wheat fairly well, with larger acreage than ever, and cotton will be a full crop if there is no backset. Fruit, usually an imported crop, was short, except the small fruits, which seldom fail. Fall vegetables now promise to be abundant. We are almost out of the world—no railroad within thirty-five miles of us. We now have hopes of having one to Little Rock in a year or two. We have a good deal of very good land, some thin, some rocky; average, fair. Cleburne county has over 90,000 acres of United States lands. There are coal and mineral lands, but undeveloped. We are so far from everywhere that land is cheap—from \$15 for a fourth of a section, up to \$2, \$5 or \$8 an acre. Quitman has a \$25,000 college, a flouring-mill, and as moral, kindly disposed people as can be found anywhere. Being 900 feet above sea-level, we have scarcely any malaria or lung trouble. Quitman, Ark. A. C. J.

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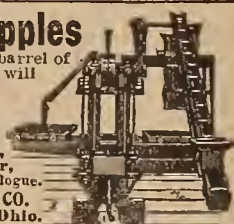
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Our Farm.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hammonton, New Jersey.

PREPARATIONS FOR FALL AND WINTER.

It is not too soon, as autumn is here, to begin preparations for next winter. Too soon to do the work is not to be considered unless there is nothing to do. It is surprising how much one will have to do when winter comes on and he is unprepared. The poultry-house may require overhauling in various ways or a new one must be built. It will be found that a new house will be less damp if built soon enough to allow the wood to season before winter. Earth floors that have been saturated with the droppings of fowls should be removed to the depth of six inches and fresh material used, and the roof should be carefully examined and made tight on the old house. Another point is that it is only after one has built a poultry-house and used it a year that he knows what he wants. No man ever built a poultry-house that he could not see something to improve about it, and it is this experience which is assisting to get more eggs in winter. Then there are the roosts and nests. Those who have spent hours performing the work of cleaning out the poultry-houses will appreciate any labor-saving contrivance, and the time to adopt them is before the winter sets in. Probably every farmer who constructs a poultry-house makes it of a certain size with the resolve that only a limited number of fowls shall occupy it, but as the flocks increase the space seems to contract, until soon the birds are so crowded as to render another house necessary. If the birds are culled out, however, this will not be necessary, and the farmer will get more eggs from a flock in a roomy house than he will from two flocks that are crowded in separate houses. At least the profit will be larger, as there will be a saving of food and labor. It is suggested that the poultry-houses have plenty of windows, so as to secure sunlight and warmth. Nothing is so repugnant to fowls as darkness during the day, and they will frequently remain in a storm outside rather than keep within the walls of a dark house. Begin the fall right and prepare for winter early, so as to have the hens and pullets laying before cold weather sets in.

VERTIGO AND OVERFEEDING.

Usually when fowls have what is known as "twisted neck," or show signs of vertigo, the cause is pressure of blood on the brain. The next point is, what causes the pressure of blood on the brain? Such fowls are nearly always apparently healthy, and, in fact, should show good condition, as only birds that are well fed suffer from such ailment. When fowls are on a range they procure much more food than may be supposed, and to give corn at night, especially in summer, is to put them in such a condition as mentioned. Of course, in the winter season corn may be used, but farmers and poultrymen should understand that when a hen has free range she becomes very fat and has all the opportunity for procuring more food than she needs. The fact that a hen may not appear fat may be a delusion. If all of the fowls—hens and chicks—are affected, it is a sure sign that something is wrong with the food. It is true that the seeds of some weeds may be at fault, but usually the cause is high feeding. The remedy is to put the birds up and give them nothing for forty-eight hours, then give one ounce of lean meat to each hen once a day for ten days—no other food—and after that feed a variety once a day.

FARM WAGON FOR ONLY \$19.95.

In order to introduce their Low Metal Wheels with Wide Tires, the Empire Manufacturing Company, Quincy, Ill., have placed upon the market a Farmer's Handy Wagon, sold at the low price of \$19.95. The wagon is only 25 inches high, fitted with 24 and 30 inch wheels with 4 inch tire.



This wagon is made of best material throughout, and really costs but a trifle more than a set of new wheels and fully guaranteed for one year. Catalogue giving a full description will be mailed upon application by the Empire Manufacturing Co., Quincy, Ill., who also will furnish metal wheels at low prices made any size and width of tire to fit any axle.

LARGE FLOCKS.

An acre lot affords a large pasture for fowls, but if they are allowed to forage over the space at will they will soon clear off the grass and keep it too close, as well as trample underfoot much that could be utilized. Those who have such limited areas can divide it so as to permit the birds to graze on only a portion of the plot while the grass is being renewed on the remainder. Now apply this same rule by dividing the hens into flocks of twenty-five each. A space of one fourth of an acre will thus be given each flock, and this one fourth may be divided into lots of one eighth of an acre. The one eighth of an acre is a space of about fifty by one hundred feet, which makes quite a large yard for a flock of twenty-five hens. But bear in mind that the flock will have two of these yards, in one of which grass or any kind of green food may be grown. As an acre is about two hundred feet each way (omitting fractions), each yard will be fifty by one hundred feet. While the fowls occupy every alternate yard the other yards may be cultivated or seeded to grass or some quick-growing crop. As there will be a yard between each flock, the males cannot quarrel and fight one another through the fence, and each flock will have quite a space over which to forage, while the changing of the fowls from one yard to another and the growing of crops on the unoccupied yards causes the turning under of all the filth on the surface, which assists in increasing the growth of crops. Where the mistakes are made may be noticed in the attempt to keep a hundred hens on a small lot. Too much is expected from the hens. They must pay under all circumstances. Then, again, no attention is given the breed or the kind of hens used. No one would keep a scrub cow if he could procure a Jersey, nor would he buy a dry cow when he could get one in full flow of milk, but an individual will go on the market to buy a hundred hens and buy any and all sorts—old, young, overfat hens, lousy hens, hens from yards that have been contaminated with cholera, roup and other diseases, and expect as much success as the man who has been more careful.

BUYING PURE BREEDS.

The farmer who buys a trio or more of fowls in the fall will make no mistake, and if he prefers to get the eggs in the spring all will be well, but he must expect to be ridiculed by some of his neighbors for paying one or two dollars for a male or hen. Nevertheless these same farmers and neighbors will promptly come forward and request to "change eggs" with him when they desire to hatch chicks in the spring. If a farmer buys eggs of the pure breeds he buys "stock," the eggs being simply the embryo chicks. The farmer who desires to improve also goes too far sometimes. Instead of depending on one breed he begins with two or more. His interest will be sufficiently strong for a year or more to keep his birds separate, but in the course of time he will undertake to save labor by turning all the breeds out together. Then the down grade begins, and in a season or two his fowls will be all cross-bred and mongrels, with no uniformity or fixed characteristics. If the farmer desires to improve, let him begin with pure-bred males if he does not wish to purchase a trio, but he should stick to one breed. If he gets a male every year, let it be of the breed he originally selected. In two or three years he will have the flocks uniform, and they will be better and better every season, and at a cost that is almost insignificant. If his neighbors desire to improve, let them co-operate with him in purchasing pure breeds, and if they refuse, then he should compel them to pay him for his enterprise when they call with a setting of eggs from mongrel hens to be exchanged for something better. A dollar or two invested in pure breeds will make a difference in the quality of the stock and the number of eggs laid of more than ten times the cost of the birds purchased.

CHOLERA.

Cholera exists at all seasons, but nearly all diseases are termed cholera, though more frequently roup is the disease at fault. To distinguish cholera from roup is the difficulty with beginners. Roup may last for months; cholera gets in and goes out of a flock in a hurry. When cholera gets into a flock there is no sure cure. It is a matter of the "survival of the fittest." A large flock cannot be handled with the object of administering medicines, and the birds will not eat; in fact, they care for no kind of food, but they will drink, and drink enormously. The remedy must then be given in the water, and of course some birds will drink more than others. The best remedy known is to add a teaspoonful of liquid carbolic acid to each quart of drinking-water. It is a poisonous dose, but desperate cases require desperate remedies. The bodies should be burned, and every square inch of the ground (and buildings) saturated with a solution of a pound of copperas and a pound of bluestone in six gallons of hot water, with plenty of air-slaked lime freely applied after the ground is dry. Cholera kills quickly. If the birds linger for three or four days the disease will not be cholera. Watery, greenish droppings, great prostration and intense thirst are the symptoms. It may not be "epidemic," if no pigeons are near, as it is probably the spreading in that manner that gives it the name of "epidemic," but it is certainly contagious.

BROILERS AND WORK.

The broiler business is a distinct one from that of keeping hens. In fact, as lice always come from hens, not a hen is allowed on some of the broiler-farms. Then, again, the broiler-raiser has no time to devote to hens. There is more money in chicks, and his work is all done under shelter, and often on a town lot. The eggs are collected from all sources, though such work is a serious obstacle. The only thing that can be done when one buys the eggs is to keep the farmers supplied with pure-bred males (often giving them the males), so as to get as much quality in the chicks as possible. That is as far as the egg problem has been solved. Good, fertile eggs are always in demand. Any cross that gives a plump, full-breasted, yellow-legged chick will answer, but the crosses give chicks that are hatched from eggs collected that are of all shapes and colors, hence pure breeds are better. All the work is done in about four months, and it is a winter business. The houses for winter use will not do for summer. One man can attend to fifteen hundred chicks, and it will keep him busy. He has no time to devote to hens.

A FEW POINTS TO KNOW.

Charcoal is excellent for poultry; so is corn burned or charred on the ear. One way to get a yellow yolk is to take beets or carrots, cook them for the fowls, feed them, and in two days there will be a change; the yolks will be as yellow as desired. One of the most important things in feeding poultry, yet too often neglected, is a supply of good, pure drinking-water, and a fowl drinks every ten or fifteen minutes in warm weather. Impure water is one of the most fruitful sources of disease. Cholera, for instance, is in all probability often due to the drinking of water that is not pure. Snow-water will reduce flesh as rapidly as a sharp attack of diarrhea. The best thing is to have a stream of running water. A few rusty nails in the water are good, or a few drops of tincture of iron every other day. The vessels must be kept clean, and water should be warmed in winter for fowls, or it will chill them, but in summer it should be cool.

INQUIRIES ANSWERED.

Leghorn Pullets.—M. D. A., Elgin, Ill., writes: "I have some Leghorn pullets, now seven months old, that have not grown as they should and do not lay. Should they not be laying?"

REPLY:—Leghorn pullets frequently begin to lay when five months old. Probably there is something lacking in your management, or the attacks of lice may have retarded their progress.

Head Lice on Chicks.—J. D. B., Grayson, Mo., writes: "How do the large head lice get on chicks, and where do they come from?"

REPLY:—They pass from the hens to the chicks. As such lice prey almost exclusively on the skin of the head and neck they do not leave the bodies of fowls, but propagate thereon, being very difficult to find unless by careful search.

Young Turkeys.—M. H., Salem, Kan., writes: "I have some late-hatched young turkeys, some of which are weak in one or both legs, travelling on their knees. A few have died."

REPLY:—It may be due to damp location or from forcing them too rapidly in growth. Avoid using sulphur in their food, as it nearly

always leads to lameness. Also look carefully on their heads for lice.

Flaxseed-meal—Molting.—E. S. R., Afton, N. Y., writes: "My fowls are molting and I am informed that flaxseed (or linseed) meal should be given them, but I do not know the proportions nor how often to feed it."

REPLY:—A mixture of one quart bran and half a pint of linseed-meal may be given fifteen hens three times a week. It is an excellent food for molting fowls. Ground bone and meat should also be allowed, and the birds must be kept in dry quarters at night.

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Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

Draining Ponds by Wells.—L. M., Mendon, Mich. Ponds or marshes may be drained by wells, if the conditions are favorable. If the bottom of the pond is a bed of clay underlaid with dry gravel, an outlet for the water dug down through the clay to the gravel will drain the pond. Sometimes ponds are drained by a ditch dug from the pond into a gravel-bank. Dig the well near the pond. If you strike a gravel-bed not filled with water, complete the work by digging a ditch from the well to the pond.

Pickling Meat.—J. F. A., East St. Louis, Ill., writes: "Is there anything that can be put in pickle when pickling meat that will keep flies and maggots off the meat? I am told some farmers put something in their pickle so the meat will hang twelve months without any precaution being taken against skippers."

REPLY BY T. GREINER:—I asked Dr. Wilson about this. He says there is no truth in the above supposition. Nothing can be put into pork pickle to have that effect that is not now generally known and used and that would not injure the quality of the pork. My way of keeping hams and shoulders (the only thing I handle in this way) is to leave them in the (sweet) pickle for six or eight weeks, or even longer, and then smoke them thoroughly and use them as I want them. I have never had any to keep a long time into the summer. But if I did I would put them tightly into tight flour-sacks and hang them in a cool, dry place—or better, into cold storage.

Tomato-blight.—Mrs. H. P. T., Mosquito, Oregon, writes, "What can I do for my tomato-plants? They grow large, thrifty plants until they commence blooming. Then the leaves get crisp and curl up, just as if they had been burnt by hot winds. Some do not die until after they have blooms on them. They have plenty of water, and the roots of the dead ones look just the same as those alive, and I can find no insect on them."

REPLY BY T. GREINER:—It is some form of blight, and a serious trouble for the reason that we are entirely at a loss how to prevent or cure it. Spraying with Bordeaux mixture has not seemed to be of much avail. Plant on new ground another season.

VETERINARY.

Conducted by Dr. H. J. Detmers.

To regular subscribers of FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant must inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. Detmers, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered under any circumstances.

Probably Actinomycesis.—G. McM., Coffeyville, Kan. What you describe is probably actinomycesis of the tongue, which, in that place, must be considered incurable.

An Indurated Udder.—E. A. D., Bridge-land, S. C. The udder of your cow cannot be restored to a normal condition. It will therefore be best to leave it alone and not irritate it in any manner whatsoever.

Hydrocele (?).—C. W. H., Hicks City, Mo. What you describe is either hydrocele, or maybe your mule never was castrated. In either case I advise you to have the animal operated upon by a competent veterinarian.

Gangrenous Mastitis.—H. McC., Cable, Ohio. What you describe is gangrenous mastitis. In such a case, a competent veterinarian should have been called at once. By this time your cow is either dead, or if yet alive, her udder is ruined.

Morbid Growth.—G. B., Wankomis, Oka. According to your description your horse has a morbid growth, probably of a malignant character, either in the maxillary sinus or in the bone itself. Such a growth, of course, can only be removed by a surgical operation. So you will know what to do.

Stumbles.—M. G. S., Terry, S. D. Go with your horse to the horseshoer and tell him to shorten the toes of the fore hoofs and to lower them by paring, but not to pare anything away at the quarters, and then to shoe the same with shoes with small heel-corks, but without toe-corks, and the stumbling will be less frequent or cease altogether.

Perhaps an Attack of Influenza.—J. L., Connelville, Pa. Your horse either suffers from an attack of influenza or from a catarrhal affection. The best advice I can give you is to have the same examined and treated by a competent veterinarian, especially as you value your horse so highly and as there is no lack of good veterinarians in your state.

Puffs and Blows.—F. H. M., Monroe, N. Y. If it is not common "heaves" that makes your horse puff and blow it may be that the same is a roarer, and that the puffing and blowing is produced somewhere in the respiratory passage, possibly by an existing obstacle. As the treatment, if any treatment is advisable, has to consist in a surgical operation, I advise you to have the animal examined by a veterinarian.

Weak in Hind Quarters.—C. T. H., Florence, Neb. Questions like yours about pigs more or less paralyzed in the hind quarters have recently been answered in nearly every number. Please consult these answers.

One Testicle Rather Small.—D. S. P., Cumington, Mass. No veterinarian will have any difficulty in removing from a horse a testicle as large as a hen's egg. To decide the other question I leave to the veterinarian who will perform the operation.

Cease to Breed.—J. T. T., Rich Square, S. C. Sows of that age, five years, especially if belonging to an improved breed and always having been kept in a first-class condition, often cease to breed. You may possibly succeed in getting them with pig if you let them run down somewhat, but it is doubtful.

Chronic Garget.—C. T., Ypsilanti, Mich. What you describe may be called a case of chronic garget. If there is no induration in the affected quarter you will yet be able to effect a restoration of your cow's udder by frequent and thorough milking. Milk her at least six times a day, and at each milking draw out every drop of milk that can be got. External applications can do no good, but may do damage.

Tuberculosis.—F. K., Linden, N. J. I cannot help it that you did not receive the bulletin I recommended. Perhaps it was lost in the mail, or the edition may have been exhausted before your application was received, because the demand for that bulletin, undoubtedly has been a large one. Space will not allow to publish a lengthy treatise on tuberculosis. Have your cow subjected to the tuberculin test, and then you will learn whether or not she is affected with that disease.

Wind-galls.—F. H., Marion, Texas. If your horse is very fast and intended to be used on a race-track it will be of no use to make an attempt to remove the wind-galls, because they are sure to return. Where violent exercise can be avoided, persistent and judicious bandaging with bandages of woolen flannel often has the desired result. Operation is dangerous, even if the galls are not connected with the pastern-joint, but only in the sheaths of the flexor tendons.

A Lamé Horse.—C. L. R., Hill Top, Colo. You cannot expect me to tell you where your horse is lame and what causes his lameness on the mere information that he is lame and that he gets worse when exercised or at work. Nearly every lame horse does. As to the swelling of the pastern-joint, examine the posterior surface of the pastern and see if there are sores or so-called scratches. If so, bring them to healing, and the swelling probably will disappear. Concerning the lameness, give the horse strict rest for a sufficient length of time.

Slavering and Excessive Perspiration.—S. G., Osage Mills, Ark. The slavering of your horse will have ceased since you have taken the same out of the white-clover pasture. As to the excessive perspiration, it may have various causes; for instance, diseased lungs, insufficient secretion of urine, general weakness, etc. As long as the cause is not known, or where it is known but cannot be removed, a treatment is out of the question. Maybe that a mild diuretic, for instance, powdered juniper berries, say a tablespoonful mixed with some ground or chopped food twice a day, will have a good effect.

Probably Impaction of the Third Stomach.—J. G. T., Langdon, N. C. Unless there is somewhere in the digestive canal a mechanical obstruction preventing the passage of the contents, your cow probably suffers from an impaction of the third stomach, and for this ailment thirty drops of pure croton-oil mixed with five ounces of raw linseed-oil, to be given at one dose, but very slowly, constitutes the most reliable remedy, but, of course, it cannot remove mechanical obstructions. The slow action of croton-oil must not be a temptation to give a second dose, for doing so might be attended with fatal results. When this reaches your cow will be either dead or will have recovered.

An Affection of the Brain.—C. H. D., Elton, La. The description given by you of the symptoms of your cattle that died, and of the one heifer that recovered, correspond to those produced by severe pressure upon the brain; for instance, by hemorrhage or by exudates. If any more cases should occur, a careful post-mortem examination of the brain of the first animal that dies will probably throw some light upon the nature and the cause of cases in question. If, as you say, no competent veterinarian is available I advise you to call on your family physician to make or to direct and to superintend the post-mortem examination. As long as the cause and the nature of the morbid process is not known, a rational treatment, with the exception of removing the affected animal to a shady and cool place, and of making applications of crushed ice or of very cold water to the poll and top of the head, is out of the question.

A Lamé Horse.—O. H., S. Amherst, Mass. Maybe the thrush in the feet of your horse constitutes the cause of the lameness. Pare away all loose and decayed horn from the frogs and soles of the affected hoofs. This done, lift up and hold one foot thus prepared in such a way that the sole looks upward, with the toe inclining about fifteen degrees below the horizontal line, then pour some pure carbolic acid (ninety-five degrees) into all the clefts and crevices of frog and sole, but take care that none of it flows off except over the toe where it can do no damage. Having one foot thus treated, treat the other or others the same way, and then keep the horse on a perfectly dry and clean floor. A few days will show whether one application of carbolic acid is sufficient (it usually is if first all the decayed horn has been removed and if a reinfection is prevented by keeping the horse on a dry floor) or whether a second one will be required.

Lame in Fore Foot.—M. H., Howard, S. C. According to your description your horse is either affected with navicular disease or his lameness is caused by a chronic inflammation of the suspensory ligament or of one or both of the flexor tendons. Whether it is navicular disease or not you can probably ascertain yourself by having put on the lame foot a bar-shoe pressing upon the frog. If such a shoe increases the lameness there will hardly be any doubt that navicular disease is existing; but if it has no effect whatever upon the lameness it will be a sign that the latter is caused by something else, probably by a chronic inflammation of the suspensory ligament or of the flexor tendons. In that case you will also find an increased (more forcible) pulsation in the common digital artery, which can be easily felt on the median surface of the leg about midway between the knee and pastern joints, just in front of the flexor tendons. In this case strict rest for several weeks and one or two applications of a good counter-irritant, four days apart, rubbed in on the flexor

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tendons, but not in the bend of the knee and below the fetlock, constitutes the remedy, provided neither the ligament nor the flexor tendons have yet been shortened by contraction. Oil of eucalyptus will answer as a counter-irritant.

Probably Pumiced Hoofs.—C. S. P., Moorefield, W. Va. Your horse, according to your description, has pumiced hoofs in consequence of an attack of founder or laminitis, before he came into your possession, which did not terminate in perfect recovery. If you will make a close examination of his hoofs you will find that the soles are very flat, or perhaps convex instead of concave, as they ought to be, and that the one of the right foot is the worst. If you also find that the frogs are strong and well developed, as very likely will be the case, I advise you to have the horse shod with a pair of good bar-shoes with a very broad web and very concave on the upper surface inside of the nail-holes, for such a shoe will protect the very sensitive sole, will cause the strong and healthy frog to bear a considerable portion of the weight of the animal, and will thus bring relief to the rather weak wall of the hoof. That the upper surface of the shoe must be perfectly level between circumference and inner margin of the nail-holes and everywhere it comes in contact with the lower border of the wall of the hoof and with the frog is self-evident. You will find that the horse, if well-shod with such shoes, will go much better and perhaps not show any lameness whatever. The shoes must be reset once every four weeks.

An Ugly Sore.—J. W. G., Belmont, Ky. Wounds and sores on the legs of horses, situated below the so-called "chestnuts," or horny warts, unless brought to healing by first intention and without suppuration and loss of substance, always cause a production of larger or smaller and more or less ugly horny scars. The latter will be the larger and the more conspicuous; the greater the loss of substance the more lasting and profuse the suppuration and the longer the time required to effect a healing. The advice of your neighbor to apply antiseptics was all right; he only forgot to tell you that it is not enough to disinfect such a wound and to destroy the suppuration-producing germs, but that it is also necessary and of the utmost importance to keep such a wound aseptic, or, in other words, to scrupulously prevent any invasion and contamination of the wound with any septic and suppuration-producing germs, for it can do no good to disinfect such a wound and then immediately expose it to renewed infection. The wound from the beginning should have been kept protected by a suitable aseptic dressing, for instance, absorbent cotton saturated with a one to two per cent solution of pure carbolic acid in water sterilized by boiling, and a good bandage to keep the dressing in its place and to prevent unnecessary swelling. Several other mild antiseptics would have answered the purpose. As it is now, it is rather risky to give advice without having examined the exact condition of the sore or wound. The excessive granulation, or so-called proud-flesh, not possessing sufficient vitality, and therefore interfering with the process of healing, must be destroyed. This is probably best done by applying to the raw and easily bleeding granulation a pinch of finely powdered sulphate of copper, but in doing this care must be taken not to destroy any permanent tissue and of the granulation any more than necessary; therefore one application of the sulphate of copper may be sufficient. As a rule, it will be found sufficient to destroy only such granulation as protrudes over the surface. After the excessive granulation has been destroyed the further treatment must be strictly aseptic, like that of a fresh wound. In your case it will probably be advisable to dress the wound with a mixture of iodoform and tannic acid, one part of the former to two parts of the latter, by weight; then to protect the same with absorbent cotton and to keep the dressing in place and to prevent excessive swelling by means of a well-applied bandage. Dressing and bandage must be renewed at least twice a day. As to the bandage, I advise you to use one not more than about three inches wide, and to see to it that none but a clean one is used. That a formation of an ugly horny scar cannot now be prevented I have already explained.

A Lamé Mule.—W. P. C., Union Grove, Ala. You undoubtedly have endeavored to give a complete description of your case, but, unfortunately, you dwell mostly on inessential, while the most important symptoms upon which the diagnosis must be based and by which the lameness of your mule can be distinguished from any other kind of lameness either have been inaccurately described or have partially escaped observation. All the statements of any significance in your communication, and which have any bearing upon the case, are the following: (1) The mule showed the first sign of lameness after (constantly) rolling (you say "wallowing") in the stable. (2) The animal did not seem to be very lame for about a week, and then was awfully lame walking up hill, but not when going down hill. (3) The mule has a running (probably "suppurating") sore on the inside of the hock-joint which made its appear-

ance seven weeks after the beginning of the lameness, and seems to have healed in about a week. (4) When standing the mule constantly draws up the lame foot as if in great pain. (5) No swelling of any kind has been found on the lame leg. (6) In walking the mule puts the lame foot flat on the ground, but does not put any weight upon it, and "don't walk with it under her as she ought to" (which probably means that the leg is moved outward at every step). All other statements, as far as I can see, have no direct bearing upon the case, and therefore may be dismissed as inessential, with the exception of one, which says that the mule before becoming crippled was troubled with worms, and thus indicates that the mule very likely was predisposed to attacks of colic. The statements enumerated above I will briefly analyze, and thus point out the conclusions that may be drawn. Under the first statement is given a clue as to the probable cause of the lameness. The mule was constantly rolling (wallowing) in the stable. There must have been a cause for doing so, and this most likely was an attack of colic. In some attacks of colic, not necessarily dangerous to life, the rolling and throwing often becomes violent and reckless, and if it takes place in a narrow inclosure, for instance, in a stable, or, as it may have been in this case, in a stall, a horse or mule suffering from colic may get down into a most awkward and unnatural position, from which the same, without help, cannot extricate itself except by the most violent exertions not seldom productive of serious injury, consisting in a straining, or even tearing, of muscles, tendons and nerves, and fractures of bones, etc. In the case in question the lameness made its appearance immediately after rolling; it thereupon stands to reason that the latter, in the way just pointed out, constitutes the indirect cause of the same. As to the second statement, it often happens that a lameness caused by the straining of a tendon, muscle or nerve, or even by the fracture of a bone, provided the fracture is at first incomplete or a mere crack, not causing any displacement, and afterward becomes complete and causing displacement, is for several days comparatively slight, and then in some cases gradually and in others suddenly becomes very severe. As to the second part of this statement, it must be borne in mind that nearly every lameness in a hind leg is, for obvious reasons more severe up hill than down hill. Hence, this statement by itself alone is without any diagnostic value, though it stands to reason that the difference will be the greater the less the animal is able to throw weight upon the lame foot. As to the third statement, there is nothing to indicate that the "running" sore had any casual connection with the lameness, therefore it must be presumed that its presence was due to an accidental lesion. Statement under four is not very plain, because the words, "as if in great pain," imply that the drawing up of the lame foot is not the result of an inability to support any weight upon the lame leg, but merely such a symptom of pain as is observed if any abscess is existing inside of the hoof, but in that case the drawing up of the foot would be more a continued moving up and down than a drawing up, and the mule in walking would hardly put the lame foot flat upon the ground (under sixth statement). Besides this, an abscess in the hoof would have announced its presence long before this in an unmistakable way. Statement five is of a negative character and of value only in so far as it excludes certain possibilities. Of much more diagnostic importance is sixth statement, which plainly shows that the lame leg is not able to support the weight of the animal. Such an inability can be produced either by a severance of continuity in certain muscles, tendons and bones (a fracture, if in the latter), or by an inability of certain muscles to perform their functions on account of a severe injury (severe straining or tearing) of the nerve or nerves which govern these functions, or in consequence of a degeneration of the muscular tissue. The latter, however, is in most cases a consequence of a long-continued inactivity (paralysis) caused by a non-performance of the functions of the nerves. A severance of continuity in muscles and tendons is excluded in the case in question by the fifth statement. The latter part of the sixth statement, if I correctly interpret it, excludes some more possibilities and practically leaves only a fracture of the pelvis, most likely of the os pubis, and a severe injury or straining of one of the principal nerves of the hind leg, but probably of the crural nerve. A more definite diagnosis can only be made upon an actual examination. The prospect of recovery is a slim one. If it is a fracture, which can be ascertained by a careful examination through the rectum, and the same is limited to the transversal branch of the os pubis, the possibility of a healing is not positively excluded, provided there are no dangerous complications and the animal can have perfect rest. If it is paralysis of the crural nerve, and the paralysis is not a complete one, or there is by this time not too much shrinking of the affected muscles, improvement is also possible, but in that case the animal must have daily exercise. A medicinal treatment is useless and out of the question in either case.

Our Fireside.

A SUMMER SHOWER.

The wind that has been playing with the tasseled heads of grain
Now sounds a sudden warning moan that tells of coming rain,
And all the running, creeping folk, and all the folk that fly,
Are filled with consternation as they hear the warning sigh;
And into holes and crevices, in frantic haste and fear,
They run and crawl and hop and fly, and quickly disappear;
The squirrels to their nests have gone, the bees gone from their food,
And safe beneath a rhubarb-leaf a hen has clucked her brood;
The butterflies have left the air, the crickets left the grass,
When like a breath the raindrops fall, and like a breath they pass;
And then the golden sun returns and drives the mist away,
And all the creeping, flying folk come back to work or play.

—Frank H. Sweet, in the Independent.

MR. PERIGOLD.

BY HATTIE WHITNEY.



ow we all hustled and bustled getting ready for him—right in the middle of our September pickling and preserving, too! But it had to be done, on Cinda's account.

Cinda, my oldest sister, had made his acquaintance during a visit to city friends, and he (an exceedingly

delightful and altogether excellent young man, according to her) was coming down to the farm to visit her.

We all had misgivings about this Mr. Perigold; we sarcastically called him Mr. Paragon, and didn't believe in him at all, notwithstanding we hadn't seen him. We had seen Phil Archer, and knew him from way back, and it was one of our dearest hopes that Cinda should accept the heart he vowed she was trampling underfoot. But she was as contrary as only a brown-eyed woman who looks like a fat baby with a dimpled chin knows how to be, and she said he ought to take better care of his heart than to leave it lying around underfoot. Further than that she had never committed herself. And we felt certain her Mr. Perigold meant to overturn our plans. But we couldn't help that now; he was coming on short notice, and he had to be fixed for.

"I wonder if the grand pasha likes pie," speculated Josie, as she dropped a chunk of yellow butter into her tray of flour and proceeded to rub it gently through.

"Ever a mortal man that didn't?" queried Rue, who was whacking away with the beater at a bowl of eggs.

"No-o," drawled Josie; "but this Mr. Paragon may be more than a mortal, you know."

"So much the better; there'll be more pie for the rest of us," philosophized the youthful Jimmy, usually dubbed "Shorty" because, as Josie explained it, of his lack of altitude.

"Oh, I dare say, young man," Rue pounced on him, metaphorically, "you'd eat pie seven times a day if you had your way, and turn-overs and tarts to fill up the chinks. Suppose you help along the good work by fetching me a basket of dry chips to heat the oven with."

"That's it," grumbled Shorty, scrabbling off the meal-chest and sending dismally out, "it's this working between meals that's killing me."

I lifted my stone jar of pears out of the oven, where they had been slowly baking into a mass of firm golden jelly since morning, set them away to cool off, and went out of the kitchen to do likewise myself.

Mother and Aunt Abigail were carrying armfuls of clean, fine, rose-scented sheets from the big linen-closet at the end of the hall up to the spare room, which Cinda herself had been making as neat and sweet as waxwork.

"Seems as if we were fixing for a houseful of grand pashas," I meditated, dumping myself onto a wide window-sill. "I wonder—"

I didn't finish wondering, but fell to watching Cinda, who was just outside sweeping off the porch; and she was worth watching, too, even in a gingham gown with a pink-bordered towel plumed over her head. She looked like a duchess, only I dare say better looking than most duchesses—straight and tall, with big, mellow brown eyes and dimples; and oh, how many a bitter moment I have wasted wishing my nose was like hers, instead of the perked-up little affair it is.

She stopped sweeping and looked down the walk to the gate, and I looked, too, and saw Phil Archer coming up to the house with a little yellowish envelop in his hand. He waved it at her as he came up to the porch.

"Ed Sapp handed it to me as I was passing the telegraph office," he said, giving it to Cinda.

"A telegram," yelled Shorty, who was just coming up with the chips, and everybody in the house heard and came racing headlong out, Josie scattering flour out of the sifter at every step, and Rue clinging to her egg-beater.

Cinda took the telegram and opened it calmly; she is naturally of a serene disposition. The rest of us wriggled with excitement.

"Speak!" roared Shorty. "Has the grand cashaw given us the shake?"

"Or run away?" suggested Josie.

"Or been arrested for forgery?" hazarded Rue.

"Worse," said Cinda, tranquilly, "he's going to bring a friend with him—says he was sure we wouldn't mind, but telegraphs so as not to take us by surprise; they'll be here to-morrow morn'g."

"And only enough crust made for eight pies!" wailed Josie.

"Frightful!" groaned Shorty; "there won't be enough for breakfast."

"Come on, Abby; we'll have to take up more sheets and fix another bed," said mother, as she disappeared with Aunt Abby in her wake. Josie and Rue went back to their pies, and Shorty faded away with the chips. I sat still in the window. I could see outside.

Phil was looking slantwise at Cinda as he balanced himself on the porch railing.

"Reckon the arrivals to-morrow'll knock our ride to the Big Rock landing higher than a kite," he observed at last.

"Oh, Phil," said she, with a little dismayed jump, "I did forget that as sleek as—"

"A peeled onion," he suggested, gravely.

"Yes, or anything. We'll have to wait until next week, now."

"I'm going over the river to help Uncle Joe get in his corn next week," said Phil, "and I'm afraid I'll find you in the woeful predicament of the young lady who was 'wooed and married and a'—when I come back."

"How silly," said Cinda; but she blushed—yes, and giggled, just as if she wasn't a stately Juno kind of a young woman.

"Good-by," said Phil, sliding off the railing.

"Good-by, Phil," said Cinda, absently. She was resting her short dimpled chin on the broom-handle, dreaming, I suppose, about the coming Mr. Paragon, and she didn't see the look in Phil's eyes that I did. I could have bounced out and tweaked her ear good.

Mr. Clarence Armande Perigold wasn't my idea of a conquering hero, but he was undoubtedly a pretty little man; as spick and span as wax, with his little pointed patent-leather shoes and his neat little corn-colored mustache. Cinda could look over the top of his head without tipping her chin. He was very suave and polite to us all (maybe a trifle condescending), but his voice was shallow and flat-sounding, and I could detect a chronically dissatisfied undercurrent in it, and there was a peculiar queri in his mustache that I thought betokened irritability of disposition.

Mr. Lawson, the friend he brought with him, was a deal more manly looking to my notion, though he wasn't handsome, and I did not admire the way one lock of his hair set out in the back, separate from the rest. He had jolly brown eyes, and he said at dinner the corn-bread (I made it) was the best he ever tasted, and he was hungry and seemed to like everything we had; but Mr. Perigold minced along all through the dinner, and then wouldn't eat any pie. He never ate pie, he said. I am sure our dinner was good enough to satisfy anybody. What more could one ask than fried chicken, succotash, mashed creamed potatoes, sweet potatoes, biscuits, corn-bread, good coffee, grape pie, lemon float and peaches and cream? But Shorty said he guessed Mr. Paragon expected rose salad and oriole potpie.

"He may get down to dodgers and cold greens yet," Josie prognosticated darkly, "with apple stump for Sunday."

However, Cinda did not seem to find any fault with Mr. Paragon; she sailed about showing him the views and everything, and I could just see Phil's chances getting thinner and thinner every minute—until the next night.

It was a pumpkin that fell in the way of Mr. Perigold's romance, a beautiful, rich yellow, bouncing globe that was enddling sweetly in a nest of cool, tangly vines in the corn-field and just aching to be picked. We had half forgotten the pumpkin-patch, being in an out-of-the-way corner of the corn-field, and hadn't had one yet, when I spied this the day after the visitors came.

"Pumpkin pie!" said I, as I hopped a horn-pipe all by myself. But what with so many things to do, and Mr. Lawson to look after (he would get overlooked by Cinda and Mr. Perigold, and come mooning around wanting to know if the goldenrod was worse, and such foolish things, or if he couldn't help us shell butter-beans and peel apples), I clean forgot the pumpkin till late that night, when the rest were all supposed to be in bed but Cinda and me.

Cinda was heating the curling-tongs in the lamp, for she never would get up early enough in the morning to curl her locks, and I was mending a rip in my blue dimité. Mr. Lawson said he liked blue; but then it wasn't anything to me, of course, what he liked.

"Cinda," I said, as I jabbed the needle back into the red flannel case, "let's go and get that pumpkin this minute, or there's no telling but those Jones boys'll get in and lug it off for a water-melon; you know they did that trick once. Will you?"

"Don't care," said she, lazily; "if we don't get too druggily with dew."

So we gathered up our gingham ruffles and sped off.

Autumn moonlight! How it deluged the big farm-house and made a humpy shade beside it, and sent long, wavy, soft shadows from all the trees, and quivery gold threads in the long grass, where the crickets were sawing away at their fiddles as jolly as sand-boys. The katydids were quarreling merrily with the "dids" and "didn'ts," as if they never did mean to quit, and an autumn scent of ripe corn-tassels and muskmelons drifted from fields and garden.

"Let's see who can get to the pumpkin first," I suggested, as I started to make a dash; but Cinda's long arm reached out and stopped me.

"Sh-sh," she whispered. "I hear some one, and I smell smoke."

We were in the corn-field then, just coming to the pumpkins. Some of the corn, which father said was only fit for fodder, had been cut and stood up in shocks, and close in the shadow of one of these shocks Cinda and I dropped, clutching each other, our hearts flopping frantically, for we were both cowards.

"The Jones boys," I gasped, and Cinda gave me a shake, as a step went crunching through the grass and corn-blades on the other side of our shock.

"And you don't even appreciate a scene like this," said a mellow voice—a voice that had that very morning besought permission to beat eggs for the custard.

"No, I don't," retorted an extremely fractious voice, that sounded as if it belonged to a cross little boy, only a grown-up little boy: "what you wanted to haul me out for a tramp through this confounded old wet field for? It's full of spiders and lizards, no doubt—maybe snakes."

"Look at the moonlight!"

"Darn the moonlight! I've got country enough to last a lifetime!"

"Must be a trifle dyspeptic, Clary, old boy," said the other voice.

"Have to be a goat if I wasn't," came the crabbed answer. "How any one ever invented the barbarous customs these people bave! Hearty dinners at twelve o'clock noon that would kill an anaconda."

"I—don't—know," Mr. Lawson's voice sounded pleasantly retrospective. "The memory of that last cream pie, like the scent of the roses, clings to me still."

"Pie!" Of course, we couldn't see Mr. Perigold sneer, but I knew by the tone of his voice just how hatefully that supercilious little mustache of his was quivering up. "And boiled dumplings! A mercy we don't have to sleep in feather-beds and drink rain-water out of a blue barrel with wiggles in it. And the old gentleman forgets what a fork is for, and the old lady says, 'Why, me, you ain't got any appetite at all' (in a base imitation of mother's hearty voice), and Aunt Abigail 'just loves fried cabbage for breakfast.'"

"And how about the princess herself?" asked the other voice, the mellow one. "Not disenchanted with her, are you?"

"Oh, Cinda; she's all right herself, or will be when I get her away from these bucolic surroundings and relatives and get her coaxed up a bit. She takes polish very nicely, but she'll have to sly clean away from all these kinsfolk when she's mine. I'll have no relatives in law of this ilk—not a contrived one, and she'll have to learn it mighty quick."

"Well, now, I think they're a jolly lot of folks myself." This from the other voice; and wasn't it a manly one compared to that impertinent, squeaky drawl. "They're all as wholesome and hearty as the sunshine; I like 'em, one and all; and as for Miss Caddle, with the little tilted-up nose, I think she's the cutest little being—"

"Pert unlx," snarled the fractious voice: "always getting in the way and grinning at you! Come along, Al, let's get out of this old mess of wet grass and stleker weeds. I've stubbed my toes and spoiled my 'shue' and got neuralgia, and I know there's a spider or katydid or bat, or some kind of a beast, down my back; I shan't stay another minute."

We heard them crunch off toward the house, and then we gathered our pumpkin and started home.

"Cad," said Cinda, "we oughtn't to have listened."

"Cinda," said I, stoutly, "we ought. We've both heard something to our advantage; and besides, how could we help it? We couldn't spring out and tell them what we'd already heard, could we?"

"No," said Cinda, pensively.

I looked forward to seeing Mr. Paragon get a wholesome snubbing the next day, but he didn't. Cinda smiled on him as placidly as ever. Then she insisted on us all making a whole lot of different kluds of pies for dinner, and even made two peach pies herself—beauties; and she insisted on giving Mr. Paragon two pieces.

"If I ever keep house for myself," said she, sweetly, "I mean to have pie three times a day."

"I hope you'll let me board with you," said Al Lawson.

"Me, too," piped Shorty.

After that one dab I think Cinda tried to keep out of Mr. Perigold's way as much as possible, and she was a trifle offish. Toward evening, while the rest of us girls were getting supper, she stole out through the kitchen,

with her pink sunbonnet on and a basket on her arm, to the orchard, to get some of the yellow peaches to slice up; and a little while after, when I ran out to the garden to get a fresh cucumber, I could see the pink bonnet among the trees and also a white hat, and I knew the hat wasn't Mr. Lawson's, because he was tagging after me—just to help gather the cucumbers. Evidently the pie prospect hadn't discouraged Mr. Perigold, or he had faith in his own powers of breaklug up the deadly habit.

Late in the twilight I stumbled upon Cinda in our bedroom, and my stars! Some one says that all women are babies, and the bigger the woman the more of a baby she is. Evidently it is true, for here was my Juno-like sister weeping away like any six-months' infant. I immediately fell upon her and soothed and scolded her at the same time.

"What's the matter? What's his royal crankiness been doing now?" I demanded.

"Oh, Cad!" Cinda dropped her head on my arm after the style of Mary's lamb. "I wasn't going to let him, but he did anyway—actually asked me to marry him, and in a way that sounded as if he knew he was condescending awfully, and as if he hadn't a doubt what I'd say; but I didn't say what he thought I would; I said I wouldn't even think of it, and he got huffy right away, and indignant, and—and—"

She poured out a fresh supply of tears on my shoulder that made me quite damp.

"Cinda," I announced, emphatically, "you're the simplest specimen of a woman I ever saw, to shed one tear over that upstart, with his narrow, mean little views and his little old impudent mustache; he isn't worth the littlest scrap of a tear from a girl like you, he—"

"Oh, you dear little imbecile!" Cinda broke in, with a sob that ran off into a giggle, "do you suppose for a second I'd get a red nose on his account—cut loose from all my own people, indeed, for him? It's—it's—it's—"

"It's what?" I shouted, breathlessly.

"It's because Phil—has—gone—over to his uncle's, and—and Becky Linley lives over there, and—and—"

"Well, if that's all," I stopped feeling tragic, "he'll come back again all right; and there might be a couple of dozen Becky Linley's over there for any harm they'd do."

All that happened some time ago. I'm the city relative now, Mrs. Al Lawson, and I come down to the blessed old farm and the dear farm people every summer of my life; and of course I never neglect to pay a visit to the farm just over on the next ridge, where my sister, Mrs. Phil Archer, dwells. And we never forget to remind each other of our moonlight trip to the corn-field after that fateful pumpkin.

Mr. Perigold married a little, thin, bleached-out widow, who says she never saw corn growing, and doesn't know whether pumpkins grow under the ground or on trees:

ELECTRICITY AT THE PARIS EXPOSITION.

American electrical machinery manufacturers are to have the opportunity to furnish the Paris exposition with electrical machinery to the value of \$1,000,000. This opportunity is the result of efforts exerted by the special American commission sent to Paris to look over the ground and furnish advice regarding the American display there. Commissioner Hamburger, who has just returned to New York, said that it is evident that the French government desires to cultivate the friendliest relations with America, and an opportunity has again been given to our electricians to furnish electrical machinery to the amount mentioned above. A chance was formerly given American electricians to furnish electrical machinery, but because of the absence of information, the American manufacturers did not respond quickly enough. Negotiations were then begun with manufacturers of other countries, and as far as America was concerned the matter seemed to be closed. This new contract will be awarded, notwithstanding the fact that while Germany and Russia have each appropriated \$1,250,000 to defray the expenses of a display, and England has appropriated \$500,000, this country has not as yet voted any sum for the national exhibit or even appointed a permanent commission. It is said that the \$1,000,000 worth of machinery would be equivalent to 40,000 electrical horse-power, and this machinery would be a display and also prove a profitable transaction.—Scientific American.

A PROSPEROUS PEOPLE.

SOUTH DAKOTA FARMERS ARE OUT OF DEBT. They will be lending money to Eastern farmers within a year. Don't stop to sell your old worn-out farm. Let the mortgage take it. Go to South Dakota and buy a rich black loam prairie farm for cash or on crop payment plan. No hills, no stones, no stumps. Good schools, good churches, good water, fine climate, and the best people on earth for neighbors.

For railway rates and information regarding lands along the lines of the Chicago, Milwaukee & St. Paul Railway write to H. F. Hunter, Immigration Agent for South Dakota, 291 Dearborn Street, Chicago, Ill., or Geo. H. Hearford, General Passenger Agent, Old Colony Building, Chicago, Ill.

COST OF CABLE MESSAGES.

The many cable lines and the resultant competition have brought the cost of communication between New York and London down to a fairly low figure, twenty-five cents a word, but when one tries to reach more remote parts of the world where the line is controlled by a single government or company, or where there is little business to support it, the cost of sending messages amounts to alarming figures. To send ten words from New York to Manila, for instance, cost \$23.50, or \$2.35 a word beyond London. This is the commercial rate. Newspaper dispatches go at about half this sum, but even so, the cost of bringing a column of news from the Philippines amounts up to nearly four figures. Even from a point so near as Curacao, which became for a short time the center of news interest, the commercial rate by the cheapest route is \$1.98. These two samples will give a fair intimation of the immense sums being expended by the newspapers in gathering information about the war.

It may seem at first thought that \$2.35 is a large sum to pay for sending a single word from New York to the Philippines, but when one reflects that such a message travels 20,000 miles, and that it must be received and transmitted over a score of different lines or branches, he is more likely to come to the conclusion that it is very cheap, all things considered. From New York the cablegram goes first to Halifax, and from there by another loop to Heart's Content, Newfoundland, where it dives beneath the Atlantic to reappear on the coast of Ireland and be again forwarded to London, which is the great center of cable and telegraphic communication for the whole world.

From London to the East there are two great routes. The first, via either the Eastern or Indo-European company's lines, will take the message across the channel and overland to Marseilles, or by all the watercourse around the Spanish peninsula, stopping at Lishon; thence through the Mediterranean to Alexandria, across Egypt by land, down the Red Sea to Aden, through the Arabian sea to Bombay, over India by land, across the Bay of Bengal to Singapore, along the coast to Hong Kong, and across the China sea to Manila.

The other route from London is even longer, and covers a much greater part of the journey by land. It takes the message from London by the lines of the Great Northern company across Russia and Siberia to Vladivostok, and thence across the China coast to Hong Kong.

In its long voyage, occupying from three to twenty-three hours, according to its urgency, the message has crossed or skirted a score of countries, representing almost as many different nationalities, and yet the sender may rest assured that it will be transmitted with promptness and secrecy, and at fixed and known charge. This assurance is provided by the bureau of international telegraphs, which has its headquarters at Berne, Switzerland. It was inaugurated thirty years ago for the purpose of "collecting, arranging and publishing information" on this subject, regulating accounts, and guaranteeing the interest of senders and receiver. It brought order out of the chaos previously enveloping international communication by wire, and has made it possible to cable to any part of the world as easily as one sends a telegraph message from his office to his home.

The question of cable-cutting is one that has received considerable attention since the beginning of the war between Spain and the United States. Has the United States, for instance, the right to sever a cable belonging to a French or British company, when it is known that the cable is or may be used to give information to Spain? The authorities on international laws are agreed in answering the question in the affirmative. Everything that can give direct assistance to an enemy is recognized as "contraband of war," and may be seized or destroyed. Railways, telegraphs and cable lines come under this head as surely as provision or ammunition ships. The only disagreement among the experts is as to whether the companies whose lines are so summarily interrupted can afterward collect damages. On this point authorities differ, but the consensus of opinion, supported by the cable companies themselves, is that they can do so.

Whatever the opinion of legal experts, there is no doubt as to the action of naval and military commanders in dealing with a cable which is likely to be of service to an enemy. Dewey did not wait for a legal opinion when he found that the Spanish governor of the Philippines was using his control of the Manila cable to send information to his home government. He cut the wire and shut the islands off from the world. The same thing has been done in the West Indies. All but one of the lines connecting Cuba with the outside world were cut during the first weeks of the blockade. One of the bravest acts of the early part of the war was that of the Nashville's men, who went into the harbor of Cienfuegos under a hail of shot from the shore batteries, and cut both the cables leading out of that port. That the course of the United States in dealing with the cables leading to her enemy's ports would have been that of other nations under the same circumstances is proved by the fact that the Euro-

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pean natives have ships fitted with grappling-hooks for the especial purpose of hauling up and destroying cables in time of war.—New York Sun.

SECRET LANGUAGE.

The secret-language period is a thing of child nature. There are three distinct periods in language-learning by the child. The first is the acquiring of the mother-tongue. The second period comes shortly after the time of beginning to learn the mother-tongue, and is a language made up by children who perhaps find themselves unable to master the mother-tongue. Very few children have a complete language of this kind, but all children have a few words of such. Then comes the secret-language period. Although in a very few cases the learning of secret languages begins about the sixth year, and in some instances the period ran till after the eighteenth year, yet the vast majority of cases are covered by the period between the eighth and the fifteenth year, while the greatest use is between the tenth and the thirteenth year.

There are many reasons why children learn and use these languages. One lady confesses that she originated a language and introduced it into a mysterious set of ten in order to write notes in school, and she truly adds that had their teachers discovered the key they would have learned many truths.

It can never be known whether these languages originated in the first cases with children. The names would in many instances imply that children had to do with them, as they show things familiar to the child and loved by him. So in the secret languages we

find animals playing an important part in the naming. The hog, dog, goose, pigeon, pig, fly, cat and other animals are attached to these languages. The child in the old-fashioned school, where all sat together, hearing the (to him) senseless and unknown Latin, would naturally attach the name to his language and thus give birth to hog Latin, goose Latin, etc. Seeing or hearing a language, one letter may strike the child's fancy, as in one the letter h is "hash," and so hash language is the result. In another "huh" (h) finds the funny spot in child nature, and so huh talk comes forth. The child in former days, so frequently hearing of the A B C's, would, upon the construction of an alphabet language, at once recur to such, and so name this the A Bub C in Dud language.—Oscar Chrisman, in Century.

WHAT THE SHOULDER-STRAPS MEAN.

Now that so many army and navy officers are seen in uniform, many will be glad to learn how their rank may be known. This is a comparatively easy matter, if one understands the full significance of shoulder-straps. In the United States army the color of the cloth of the strap distinguishes the various corps, while in the navy a peculiar ornament in addition to the insignia of rank is used to designate the corps. A strap without a bar signifies a second lieutenant, the corresponding navy grade being the ensign; one bar, first lieutenant in the army and junior lieutenant in the navy; two bars, captain in the army and lieutenant in the navy; a gold leaf, major and lieutenant-commander; a silver leaf, lieutenant-colonel and commander;

a silver eagle, colonel and captain; a silver star, brigadier-general and commodore; two silver stars, major-general and rear-admiral; three silver stars, lieutenant-general and vice-admiral; four silver stars, general and admiral. These tell the rank of any officer.—Saturday Evening Post.

A NOVEL HAT-RACK.

If you have a spinning-wheel that has lost its standard, the wheel may be glad to be converted into a most acceptable hat-rack. Oil and polish it, and stud around the circumference with brass pegs, suspending, when done, by a brass chain above the hall table or bench.

HOME-SEEKERS' EXCURSIONS.

On the first and third Tuesdays in July, August, September and October, 1898, the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets (good 21 days) from Chicago, Milwaukee and other points on its line, to a great many points in South and North Dakota and other western and south-western states at about one fare. Take a trip west and see the wonderful crops and what an amount of good land can be purchased for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained on application to any coupon ticket agent or by addressing the following-named persons: W. E. Powell, Gen'l Immigration Agent, 410 Old Colony Bldg., Chicago; H. F. Hunter, Immigration Agent for South Dakota, 291 Dearborn Street, Chicago, or Geo. H. Heafford, Gen'l Passenger Agent, Chicago, Illinois.

THE INHABITANTS OF THE PHILIPPINES.

There are practically three races of the native people, who altogether number probably eight millions, of various forms of religion and speaking many languages. The Negritos have blackish skin, hair and eyes, and belong to that low type of man without history, and we may say without hope, and now dwindling that once occupied the islands from Van Diemen's Land to Saghalien, whose blood and characteristics are so clearly marked in the lower class of the Japanese. Then there is a copper-colored race with "Indian" characteristics—forebears, doubtless, of our red men, whose first consins are still numerous in Formosa. The Malay element is most numerous, including the Tagals, who are warlike and enterprising, and have risen in insurrection against the Spaniards. It is among the Malays that the Roman Catholics have, during the last two centuries, made the greatest number of converts.

Yet in the great conglomeration of Philippine humanity the Chinese must not be forgotten. They first opened trade in pre-Spanish days. They still handle most of the domestic commerce and mechanical industry. They number 100,000, half of them being in or near Manila. Of late years the Japanese have come in with their capital and push. The British control the principal banks and foreign commerce, though there are a few Germans, and there were four or five Americans. The one railroad in the country was started with British money.

The Philippines at first were only a dependency upon Mexico, and commerce was for two centuries restricted to one of more ships a year between Acapulco and Manila. The cutting of the Suez canal reduced the time for steamers between Spain and her so-called colony thirty-one days.

Magellan's statue stands in Manila, as it ought to; for he named the Pacific ocean, and discovered the South American straits named after him and the Philippines, though he did not conquer them. I have before me a portrait of "Miguel Lopez de Legazpi Conquistador de Filipinas," one of a committee of three, in which were Cortez and Pizarro, who brought half the world under the Spanish crown. The Philippines are the namesake of Philip II. Yet in the far East, owing to the hostile activity of the Dutch, the Spaniards never made any further conquests.

At first their priests and friars were earnest in building schools and teaching the natives that form of Christianity which grew up under the inquisition. Yet men who enjoy bull-fights never get very far on in the fine art of colonizing or of civilizing alien races, who, as in Mexico and South America, must throw off the Spanish yoke in order to make any real progress. All honor and credit to the Spanish monks and friars. But, as matter of fact, they have become fat and lazy. Both government and religion remain medieval, and anything like serious missionary operation has long since ceased. Gorged with wealth (which is invested in British securities), holding power over body and soul, forbidding all freedom of thinking or publishing, they have paralyzed all real progress. As with Spanish possessions all over the world, the end has come in insurrection and revolution. Before an American soldier arrived, the whole Spanish system crumbled before the rebels.—The Christian Endeavor World.

THE BEDOUINS.

I heard that the Bedouins gave me the name of the walking gentleman, and once or twice were kind enough to say that I was one of themselves. Trifles like these are important when dealing with men who have the minds of children. With them whether you are to live or die depends so often on a trifle that it is as well to have as many trifles as possible in your favor. I wore their dress in my trip to Siwas, not with the idea of taking any one in at close quarters, but of making myself unnoticeable at a distance. I generally walked some way in front of my men and camels. I did this because the incessant drone of the Arab songs became intolerable to me, and as I found Abdulla couldn't possibly get on without his eternal song, I used to put a mile between us when the track was clear.

Once or twice, on reaching the brow of a sand hill, I would find myself in sight of a string of camels. The first thing the Bedouins would do was to load and hold their dintlocks at the ready. They meant no harm. It is the ordinary etiquette of the desert, at which no one dreams of taking offense. Then I would have to sit down to show that I meant no mischief, and conversation would be carried on in shouts. I generally asked them for a bowl of camel's milk, which they always gave if they had it. On one occasion I came upon a solitary Bedouin watching his herd of camels grazing. That man had probably not seen a human being for weeks. He was squatting on the ground. He neither moved nor turned his head. I asked him for milk, and he pointed to his camels, and said, "Take it." As the art of milking camels never formed part of my school curriculum, this invitation was of little use to me. But I could not rouse that man to more active hospitality. He probably looked upon my appearance as an impertinent intrusion.—Geographical Journal.

AMERICA A CENTURY AGO.

A day-laborer received two shillings a day. Imprisonment for debt was a common practice.

There was not a public library in the United States.

Every gentleman wore a queue and powdered his hair.

An old copper-mine in Connecticut was used as a prison.

There was only one hat-factory, and that made cocked hats.

Books were very expensive. "The Lives of the Poets" cost \$15.

Dry-goods were designated as "men's stuffs" or "women's stuffs."

Virginia contained a fifth of the whole population of the country.

A gentleman howling to a lady always scraped his foot on the ground.

A horseman who galloped on a city street was fined four shillings.

Crockery plates were objected to because they dulled the knives.

Stoves were unknown. All cooking was done before an open fireplace.

Many of the streets were not named, and the houses were not numbered.

A man who jeered at the preacher or criticized the sermon was fined.

Two stage-coaches bore all the travel between New York and Boston.

Six days were required for a journey between New York and Boston.

The parquet of a theater was called the pit, and was filled with the rabble.

The Mississippi valley was not so well known as the heart of Africa now is.

Three fourths of the books in every library came from beyond the Atlantic.

At the Christmas quilting parties games were fashionable with kissing penalties.

The whiplug-post and pillory were still standing in New York and Boston.

Twenty days were required for a letter to go from New York to Charleston by land.

All the population of a village assembled at the inn on "post-day" to hear the news.

Quinine was unknown. When a man had ague fits he took Peruvian bark and whisky.

When a man had enough tea he placed his spoon across his cup to indicate that he wanted no more.

Dances in Philadelphia were given every two weeks, but men under twenty and girls under eighteen were not admitted.

The favorite novels of "worldly" young women were "Victoria," "Lady Julia Mandeville" and "Malvern Dole."

The church collection was taken in a bag at the end of a pole with a bell attached to arouse sleepy contributors.

A New England girl was not allowed to marry until she could bake a loaf of bread and cut it in smooth, even slices while it was still warm.

When a Virginian started on a journey to New York he made his will and bade farewell to his friends as though he never expected to see them again.—American Tribune.

LUMINOSITY IN PLANTS.

Many instances have been recorded of flowers being luminous at night. They only seem to do this on rare occasions, hence they are to be envied who have the good fortune to witness the phenomena. Though the writer has often endeavored to get fortune's favor, she has never smiled on him but once, when he saw the phosphorescent glow from fungi in a hollow tree, just like the glow of a match when rubbed in the dark. A German naturalist, Herr Haggren, seems to have met with a number of instances in his country—or rather the night-watchman he employed did. He concludes the phenomena are more likely to occur when it is dark, after a rain, following a sunny day. July and August gave the most instances. Occurrences began soon after sunset, and there were none after dawn. He could not decide on the cause of the luminosity.—Mebau's Monthly.

THE INSECT CEMENT-MAKER.

The wasp is not a vegetarian like the bee, and our cement-maker has before her the problem of supplying her young with meat rather than with bread. As her eggs are laid in hot weather, and as enough food must be stored in the cell with the egg to mature the young insect, the question is how to preserve the meat fresh so long a time. She meets the difficulty thus: After a tube is finished, except one end, which is left open, she flies off on a hunt for spiders. She finds a fat, healthy one, pounces upon it, stings it, and carries it off and places it in the mud cell. She repeats this process until she has placed as many spiders in the tube as, according to her judgment, will be needed. She then lays an egg in the cell and walls up the opening.

The remarkable thing about this performance is the angle of her sting. Whether it is the result of a subtle poison or whether it is the special spot in the spider's nervous system where the sting is inserted we do not know. Certain it is that after being thus stung the spider lives on in a paralyzed condition for weeks and even months. It can move only slightly, and remains helpless in its mud sepulcher until the wasp-egg hatches

into a voracious grub, which at once falls to and eats with great relish the meat thus miraculously preserved.

Whether the wasp-sting renders the spider insensible to pain or not is a question not yet settled. However, the chances are in favor of the theory that it does. Anyway, we need waste no sympathy on the spider, the most bloodthirsty of all the little people of the fields and woods. There is a sense of retributive justice in the thought of a spider helpless and at the mercy of a small insect which it would have mercilessly devoured had it been able.

So we need not accuse our alert, industrious cement-maker of any unreasonable cruelty if she, like us, insists upon a meat diet for her young, nor need we have any fear of her sting, for she seldom uses it as a weapon of offense or defense.—"Insect Domestic Economy," by Anna Botsford Comstock, in "The Chautauquan" for June.

THE YUKON MOSQUITO.

Not only do the Yukon mosquitoes attack men and overwhelm them, but they drive the moose, deer and caribou up the mountains to the snow-line, where these animals would prefer not to be in berry time. They kill dogs, and even the big brown bear, that is often misnamed a grizzly, has succumbed to them. Bears come down to the river from the hillside in the early fall to get some of the salmon that are often thrown upon the banks when the "run" is heavy.

If brain runs foul of a swarm of mosquitoes and has not his wits about him his day has come. The insects will alight all over him. His fur protects his body, but his eyes, ears and nose will be swollen up and bleeding, and unless he gets into a river or a strong wind he will be driven mad and blind, to wander about hopelessly until he starves to death.

Although the Alaska summer is short, two broods of mosquitoes hatch out each year, and are ready for business from one to ten seconds after they leave the water. It rains a good deal along the Yukon, and rain is welcomed, for it drives the mosquitoes to cover. They hide under leaves and branches until the storm is over; then they come out boiling with rage at the time they have been forced to spend in idleness, and the miner has a harder time than ever after his respite.

Mosquitoes and snowflakes are not contemporaries in the states, but in Alaska it is different. Snow does not bother them so much as rain, and an early snow may fall while they are still on the wing. Fog does not choke them, either. They appear to like it. They float about in it as in ambush, and take the unwary prospector by surprise.—The Outlook.

THE ORIGIN OF GOLF.

Our name for it seems to have been derived from a Dutch word, "Kolf," which, in Holland, stood for a game that was a cross between the present golf and billiards. It was confined to a contracted, walled-in space, and played under conditions too slow for this age. Something more like golf was played on the ice by the people of Holland centuries ago. A modification of the game was played long ago in Austria and Belgium.

We have undisputable evidence that the game was popular in Scotland about five hundred years back, in a form much the same as that of to-day. Clubs, to be sure, were crudely made and somewhat differently fashioned from those now in use, and balls were not so round and smooth; but the general laws of that time still hold good.—James B. Connolly, in Donahoe's.

CURIOSITIES OF OUR CALENDAR.

There are some curious facts about our calendar. No century can begin on Wednesday, Friday or Sunday. The same calendars can be used every twenty years. October always begins on the same day of the week as January. April and July, September and December, February, March and November begin on the same days. May, June and August always begin on different days from each other and every other month in the year. The first and last days of the year are always the same. These rules do not apply to leap year, when comparison is made between days before and after February 29th.—Saturday Evening Post.

CHRISTENING VESSELS.

The personality recognized in ships was no doubt what made them acquire a sort of hovel femininity, and to it may also be traced the practice of formally christening them. The Japanese custom of liberating doves on the new ship's deck is more graceful than our way of breaking a bottle of wine there; but at the baptism of a war-ship doves would be entirely out of place. More fitting than either was the late use, in baptizing the Kentucky, of a bottle of water from the spring at which Abraham Lincoln used to drink when he lived in a Kentucky log-cabin.—Lippincott's Magazine.

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BATH OF THE PACIFIC ISLANDERS.

When American civilization takes hold of the new task which conquest has set before it in the Pacific it will not have to bother about the virtue which comes next to godliness. If the Pacific islanders are not clean it is not for lack of bathing frequently. This holds true all the way from Hawaii westward to the Philippines. The people make a practice of bathing at least once a day, giving themselves a scrubbing as efficient as the means at hand allow, and often they have several baths daily.

In some of the smaller islets of the Carolines there is no fresh water, and they drink the brackish percolation of sea-water in pits dug above high-water mark on the beaches; even where this is the case the percolated water is used for bathing. Nowhere do the people look upon a dip in the ever-present sea as a bath; in fact, it is held to necessitate an immediate bath in fresh water to wash off the salt. Among most of the Polyynesians it is a great insult to say that a man shows marks of the sea-water on his body.

Where the supply of water is sufficient, and there is no lack except on the sand islets under the equator, every island village is built with reference to convenient access to a river, or at least a large pool, whether natural or made by damming some water-course. Here the community bathes in common. Island soap grows conveniently on the trees which screen the pool. This is a large green orange, too bitter to be used for food. When rubbed over the wet skin the pulp produces a thin and stringy lather, for the juices of the fruit combine with the coconut-oil, which is abundant on every island skin, to form a true soap. For scrubbing-brushes nature has been equally thoughtful. A segment is stripped from the husk of a coconut, and the fibers thus exposed are an effective substitute for bristles set in a handle. With such soap and brush the islander gives himself a thorough scrubbing, and then sits in a current of wind to dry. As soon as the skin is reasonably dry a coating of coconut-oil is briskly rubbed into the body, and the bath is finished by tying about the waist the strip of native cloth or gaudy foreign prints which are the common wear.

This universal dubbing of oil may not seem cleanly to foreign senses, but the islanders practise it everywhere and, apparently with benefit to health. One benefit it certainly does have; it keeps off the mosquitoes. Island life, accordingly, is based on the odor of coconut-oil, an odor that is seldom agreeable when the oil is fresh and good, and may become nauseating when the oil is rancid, as often happens. It is due to this excessive use of oil that the islanders, despite all their bathing, never really seem to be clean.—New York Sun.

THE AMERICAN WAY OF MAKING WAR.

The war is practically at an end. The American boats are soon to resume their running to Southampton; the Spaniards evidently are only playing at not being in a hurry about the peace terms. It has been one of the shortest wars on record. The president sent his ultimatum to Spain on April 20th. The American ambassador to Spain received his passports on the following day. This makes little over three months. In that time the Americans have destroyed two fleets and, in fact, totally annihilated the sea-power of their enemy. They have captured two great forts, they have defeated the Spanish troops in the field, and have taken a province and thousands of prisoners. Above all, they have improvised the army with which they did this part of the work. Not bad for the interval between rent-day and rent-day! The manner of this improvisation is a striking vindication, in some ways, of the American system. Most of the troops who swarmed up the slopes at Santiago and captured intrenched positions held by seasoned troops and swept by artillery were mere untrained butchers, bakers and candlestick-makers at the beginning of the war. When they went into camp at Tampa they were the rawest of raw hands. Many of their officers were probably very little better. Their commissariat was a practical joke. Transports, medical service, all had to be created. The chief part of their equipment was their spirit as free men, their general intelligence, their lifelong habit of turning their hands and their brains to anything, and to master it at uncommonly short notice. In one word, they had nothing at their back but the system; and their whole military organization is based on the belief that, with this, they have the wherewithal for the ruggedest hour that time and spite can bring against their country in time of danger.—London Daily Chronicle.

ALMOST OBSOLETE.

Most middle-aged persons remember well when corn-bread was served upon nearly all tables in the South and West at least twice a day. Sometimes it appeared in the form of "hoe-cake" or "batter-bread," and again in "pones." It was par excellence the bread of the negro, and every man who served in the Confederate army was also a full graduate in the use of it. Now the darkies eschew

it where wheat bread is to be obtained, and upon the tables of thousands of southern and western whites it never appears at all, while others continue to use it only for dinner.

Now, why is this? Surely corn-meal is as it ever was. Those who sincerely, but probably mistakenly, believe that "water-ground" meal is better than the product of mills turned by steam can always find a supply of that in most cities, and it is common enough in the country. There is no trouble about the meal; but we doubt whether the art of cooking it has been preserved. The high-toned colored dandies who are turned out by our public schools are not the adepts that our old Aunt Dinahs and Aunt Peggys were. No self-respecting pan of dough would be con-jured into shape by such unskilled hands. And then we may seriously doubt whether corn-bread can be cooked in a stove as well as in an open fireplace.

The Indians laid their dough-cakes between layers of forest leaves or upon the hard ground and cooked them in the hot ashes, hence "ash-cake," a very luscious product indeed, when one has whetted his appetite for it by a long day's hunting. The hoe-cake was so called because it was originally baked upon a hoe—that ever-ready and useful instrument of agriculture which is to be found upon every plantation. But later on cooking utensils were manufactured which took the place of the humble hoe. So, too, shingles were used whereupon to place the dough while it went through the process of becoming a well-done ash-cake.—Sunny South.

THE BIRTH OF "YANKEE DOODLE."

The origin of our battle march is attributed to two widely different sources. It is asserted that it was first written in Greek, the words "laukhe Doule," meaning "Let the slave rejoice." It originated long before the American revolution, and many doggerel rhymes have been sung to it. The opening verse:

"Naukee Doule came to town
Upon a Kentish pony;
He stuck a feather in his hat
And called him Macaroni."

was sung in the time of Charles I., to ridicule Cromwell.

The second explanation of how "Yankee Doodle" came into existence is that the tune was first used with the words of an old nursery rhyme called "Kitty Fisher's Jig:"

"Lucy Lockett lost her pocket,
Kitty Fisher found it;
Not a bit of money in it,
Only a binding round it."

Kitty Fisher was a real personage, a famous beauty in the time of Charles II.

In those days pockets were bags sewed into the outside of the garment.

France and Spain have both claimed the jingle, and it is asserted that in Holland, when laborers received as wages a tenth of the grain and as much milk as they could drink, they sang:

"Yaukee dudel, doodle down,
Diddle, dudle lanther,
Yaukee biver, boover, bown,
Boterulck and tanther."

The tune was introduced as an American national air by a British surgeon during the French and Indian war. The ridiculous appearance of the colonial soldiers made the name Yankee Doodle seem specially applicable to them, an application, however, which amused rather than annoyed them; and the rollicking old air, with its equally rollicking words, became America's most valued battle-song.—Success.

SUPERIORITY OF BRITISH BIRCH.

A woman applied to Mr. Dickinson at the Thames police court recently for advice about her son, a boy of thirteen, who, on several occasions, had stolen money from her.

Mr. Dickinson—"Have you a husband?"
Applicant—"Yes."
Mr. Dickinson—"Has he punished him?"
Applicant—"He whacks him sometimes."
Mr. Dickinson—"It is no good beating him with a cane or stick. Buy a good birch rod. You can get one for about threepence. Then get your husband to give him twelve really good strokes with it, and in all probability he will never steal any more."—London Daily News.

THE MEANING OF COSTA RICA.

Costa Rica means the rich coast, and in most respects it is rich, particularly in the snake family, the most deadly of which is the terrible culebra de sangre, or blood-snake.

HOMESEEKERS' EXCURSIONS

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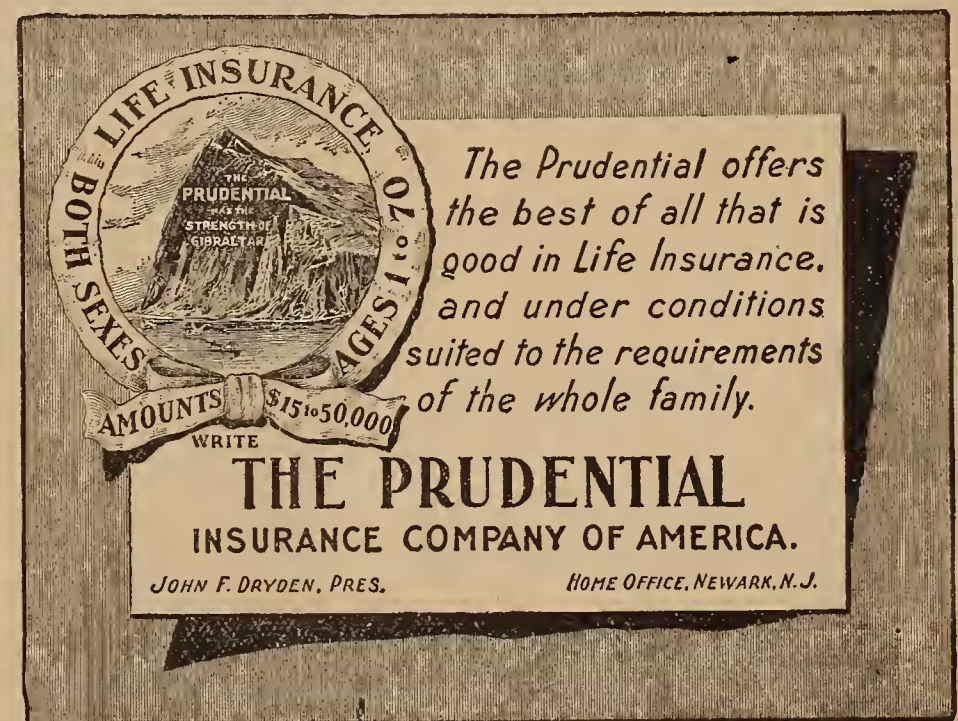
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Our Household.

TETE-A-TETE.

I know not whence I came,
I know not whither I go,
But the fact stands clear
That I am here

In this world of pleasure and woe;
And out of the mist and murk
Another truth shines plain—
It is in my power
Each day and hour
To add to its joy or pain.

I know that the earth exists,
It is none of my business why,
I cannot find out
What it's all about—
I would but waste time to try.
My life is a brief, brief thing;
I am here for a little space,
And while I stay
I would like, if I may,
To brighten and better the place.

The trouble, I think, with us all
Is the lack of a high conceit;
If each man thought
He was sent to the spot
To make it a bit more sweet,
How soon we could gladden the world,
How easily right all wrong,
If nobody shirked
And each one worked
To help his fellows along.

Cease wondering why you came,
Stop looking for faults and flaws,
Rise up to-day
In your pride and say:
"I am part of the first great cause,
However full of the world,
There is room for an earnest man;
It had need of me
Or it would not be—
I am here to strengthen the plau."
—Ella Wheeler Wilcox.

HOME TOPICS.

THE BATH-ROOM.—Every city house of any size or pretension to comfort has a bath-room, but of comparatively few of our country homes can the same be said. I want to urge all who are building new homes not to forget a bath-room, and if your house is already built and this has been neglected; if there is no room which can be given up for this purpose, and you do not see your way clear to add such a room to your house, do as a friend of mine has done—have a bath-tub set in one corner of the kitchen, and hang a denim curtain across the corner. Unless your house is fitted with hot and cold water, it is much better to have the bath-room adjoin the



kitchen than to put it on the second floor. If the bath-room opens out of the kitchen, a few feet of rubber hose may be attached to the kitchen pump and cold water pumped directly into the tub; then the tub can be emptied by the same means, attaching the hose to the outlet-pipe of the tub and running it directly into the garden or into a barrel, where it may be used in the garden as needed. In one house that I know of one end of the kitchen porch has been inclosed to make a bath-room, which in winter is heated by an oil-stove. In no place are the conveniences for a daily bath

more necessary than in the country. After a man has worked all day in the field plowing, harvesting or threshing, his clothes saturated with perspiration and every pore of his skin clogged with dust, a good, warm bath and a clean night-shirt will bring a feeling of rest and comfort nothing else can give.

POISONOUS PLANTS.—A bulletin just issued by the United States Department of Agriculture should have a wide circulation. It treats of the poisonous plants that grow so common in our fields and woodlands. It is written in simple language, the unnecessary use of technical terms avoided, and it contains descriptions and illustrations which will enable any one to recognize these plants, and thereby much pain, and sometimes more serious results, will be avoided. This bulletin, besides describing the plants so well known by name as poisonous; namely, poison-ivy, also called poison-oak; poison-sumach, which is also called poison-elder; poison-ash and poison-dogwood, also mentions some plants which it is not generally known are poisonous to the touch, as the yellow lady-slipper and others, which every year cause deaths by being eaten by children who mistake them for something else. Children should be taught early not to taste or even handle plants with which they are not familiar, and then every means possible taken to make them wise in all the plant-life of the neighborhood. It would be a good thing if this bulletin were placed in every school-room in both city and country. This bulletin on poisonous plants is published for free distribution, and may be procured by any one by writing to the Congressman from their district, or to the Secretary of Agriculture. The remedy which is given the preference for ivy-poison is an alcoholic solution of sugar of lead, the alcohol being a weak fifty or seventy-five per cent grade, and the powdered sugar of lead being added until no more will dissolve. This is to be applied only externally, and kept carefully out of reach of children, as it is a very poisonous solution in itself. The alarming statement is made in this bulletin that the Department of Agriculture has discovered the adulteration of anise-seed in both the foreign and domestic markets with the seed of the poison-hemlock, which resembles it, but which is very poisonous.

MAIDA McL.

A PRETTY TABLE-COVER.

A square of heavy linen sheeting is the material required for this table-cover. A hem about two inches wide is basted and five threads pulled for hemstitching, which

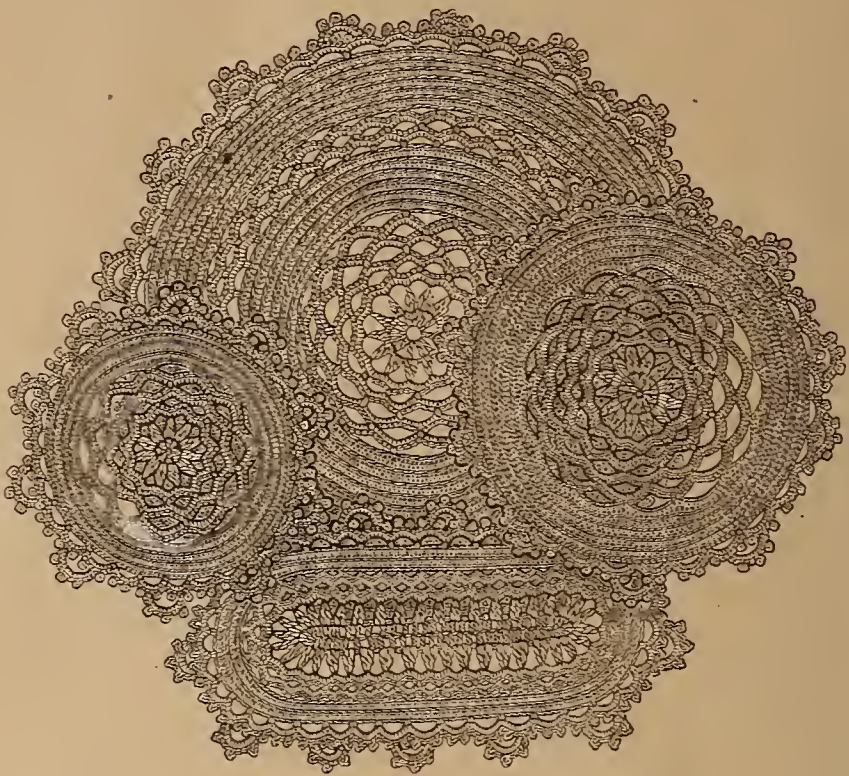
is done with pink filo on both sides of the drawn threads. The center is a vermicelli pattern covering the entire fabric, and is worked in single brier-stitch with the pale shades of floss—green, pink, blue and yellow following each other around the entire pattern. The effect is beautiful and the work quite easy to do. The fringe is tied into the linen, of coarse heavy linen thread. The tassels are wound with the different shades employed in the work. The beauty of this piece of work is its practicability and durability, and can be accomplished by one versed only in plain needlework. B. K.

WHERE ARE THE HEALTHY YOUNG MEN?

The result of the medical examinations which have been made for the purpose of determining the fitness for military service of the thousands of young men who have been volunteering for service in the army and the navy within the last few weeks has been the subject of wide newspaper comment, and has arrested the attention of a large number of serious and thoughtful men and women in all parts of the country. These examinations have brought out the astounding fact that an average of about one half of all the stalwart young men who have

There is reason for believing that the same problem would be confronting us here in this country were it not for the incessant contribution of citizens from foreign countries, and the consequent infusion of new life into the old communities which are the most active center for race degeneration by the importation of the robust and hardy peasantry of Germany and Scandinavia, whose simple habits have thus far prevented any marked degree of physical decadence.

We must awaken to the fact that race deterioration is going on in our very midst to an alarming extent, and that the only



volunteered for service in defense of their country are so seriously affected as to be unfit for military service.

Here we have another decided evidence of physical deterioration. What does it mean that more than half of the most vigorous young men in the country are suffering from tobacco heart, weak lungs and other defects to such a degree that they cannot endure the hardships of ordinary military service which nowadays does not begin to compare in severity with the demands made upon the soldiers who composed the armies of ancient Rome and Greece? The significance of this fact cannot be misunderstood. It means that race deterioration has advanced to an amazing degree; by comparing the results of the present examinations with those made thirty-five years ago, when the Union army was being recruited, it is evident that within the last third of a century there has been a decided advance in a downward direction.

We may possibly be growing wiser, but we are certainly growing weaker. The almost universal use of tobacco among young men, the extensive use of wine, beer and alcoholic liquors of other sorts in all classes of society, the neglect of physical exercise, the vicious and dyspepsia-producing diet to which young men and young women are subjected in boarding-schools, college dormitories, hotels, boarding-houses, as well as in their own homes, together with soul-and-body-destroying vices of various sorts, are making rapid inroads upon the constitution and the stamina of the race.

We note that certain senators and other politicians are complaining that the army regulations are too strict, but Dr. Sternberg, the surgeon-general of the army, a man of unquestioned fairness and integrity, assures the public that there has been no change whatever in the regulations. Evidently the change is in the men. It is about time that the leaders of our government and of society awaken to the fact that it is impossible to make good soldiers, and equally impossible to make good men, out of the sort of rubbish which is spread upon the average table; that sinewy, enduring muscles are not developed in the saloon, the billiard-hall, at the card-table or at other sedentary occupations, as loafing, watching the issues of a horse-race or a base-ball match, strutting down the avenue with a cane and a blooded pup, or extracting nicotine from a cigarette or a well-filled meerschaum pipe.

At the present rate of deterioration it will not be long before this country will be running an even race with France on the road to national decay. France has abandoned all attempts to keep her military standard up to the level of sound physical development, having lowered her standard of height two centimeters, or four fifths of an inch, within ten years, and is now struggling with the problem of how to prevent depopulation.

remedy which can possibly be of any service to check this tidal wave of destruction which threatens the annihilation not only of the nation, but of the race, is thoroughgoing reformation of the health habits of the individual. Municipal, state and national sanitary laws, regulations and reforms are of the highest value, but are incompetent to deal with this appalling question. Environment is a matter of the highest value in the cultivation of health, but will not compensate for the infraction by the individual of the known laws of physiological existence.—Good Health.

A WASH-STAND SET.

These mats are made of macrame cord or heavy white cord No. 6, and are very simple and useful. As a gift to one starting house-keeping nothing would be more acceptable. They can be all white or a little color employed in the edge. The directions are so simple to one used to crocheting that it would be unnecessary to go into detail with them. B. K.

MY WAY OF PUTTING UP PEACHES.

About the middle of September is considered the prime time to put away peaches. Opinions differ as to the best kinds, some preferring the White Heath, others the Yellow Crawford, and again others the Clingstone. For pickles or brandy peaches the Cling is preferable, for simply canning either of the other varieties, but for preserves the Crawford is the best, as it is rich.

TO PRESERVE PEACHES.—Allow three fourths of a pound of sugar to each pound of fruit. Pare with a silver knife, and lay them in water to prevent discoloration. Add a cupful of water to each pound of sugar, and a few of the seeds, blanched. Boil for ten minutes, and add the fruit a few halves at a time; when they are done remove to a large platter. When you have sufficient for a jar, return to the syrup to reheat; then carefully fill your jar with the fruit, cover with syrup, and seal immediately.

BRANDIED PEACHES.—Take six pounds of sugar and one quart of white brandy to nine pounds of peaches. Drop the peaches into boiling water for a moment, and the skins will rub off easily with a flannel cloth. Boil the syrup first, then put in the fruit, and when it is tender pour in the brandy; set on the back of the stove for awhile, and let simmer for half an hour; can and seal. Let stand six months before using. B. K.

"So far I have sold Peerless Atlas to nine persons out of every ten that I have canvassed," says Mrs. Viola A. Siemer, Los Angeles, Cal., "and am absolutely certain I can nearly or quite maintain that rate throughout. I need 30 Atlases immediately."

For the worst of Colds there is no better remedy than Jayne's Expectorant.

TATTING TIDY.

Abbreviation:—D s, double stitch.

CENTER RING.

1 d s, * 1 loop, 2 d s, repeat from * until 12 loops have been made, and end with 1 d s as in beginning, then draw close.

First row around center ring—Leave thread one eighth of an inch long; make 7 d's, join to last loop of center ring, 7 d s, draw close. Turn work.

Second row around center ring—7 d s, 1 loop, 7 d s, draw close.

FIRST ROW.

7 d s, join to 11 loop, 7 d s, draw close. Repeat second row, then first, etc., until 12 scallops have been made and joined. To center ring and 12 small scallops of second row surrounding first row join thread by pulling it through the bit of thread between the center ring and first row, tie to the end of the thread left at the beginning, and cut the working thread short.

SMALL STAR.

Make 7 d s, join to any of the scallops of second row. Make 7 d s, draw close, * then close to last scallop make 7 d s, 1 loop, 7 d s, draw close, repeat from * twice, and tie working thread to thread left when starting first scallop of this part, make firm knot, and cut thread short. Make tidy any size required.

OUTSIDE ROW.

For center ring 1 d s, * 1 loop, 2 d s, repeat from * until there are 13 loops, and with 1 d s draw close, leave one eighth of an inch of thread, 7 d s, join to last loop of center ring, 7 d s, draw close. 7 d s, 1 loop, 7 d s, draw, turn work over, 7 d s, close to last little scallop, 1 loop, 7 d s, draw, repeating until you have 4 scallops for first row and 3 for second row, 7 d s, join to third loop of end wheel of tidy from where the wheels are joined. Then 7 d s, draw, turn work (for center ring), 7 d s, fasten to next on center ring, 7 d s, draw, turn work, 7 d s, join to second loop, or one nearer tidy, joining 7 d s, draw close, 7 d s, join to center ring, 7 d s, draw, turn. 7 d s, 1 loop, 7 d s, draw, repeat until you have 4 scallops on first row and 3 on second row, 7 d s, * 1 loop, 2 d s, repeat from * until there are 5 loops, 7 d s, draw, 7 d s, join to center ring. 7 d s, draw, turn, 7 d s, join to first loop in scallop of 5 loops, 2 d s, 1 loop, etc., until there are 4 loops, 7 d s, draw, turn. 7 d s, join to loop of center ring, 7 d s, draw, repeat until there are 5 large scallops with 3 loops after joining with the small ones between, draw thread of last large scallop between first and second row, fasten tight, cut thread, make small star. Then 7 d s, join in first loop of large wheel next to the tidy. 7 d s, draw, 7 d s, join to loop of second row of tidy next large wheel just completed. Then 7 d s, join in first loop in second wheel in tidy, 7 d s, draw,

7 d s, join to second loop of second wheel, 7 d s, draw, make alternately one small scallop for first row and one for second row until you have 4 for the first row and 3 for second row, then 7 d s, 1 loop, 1 d s, etc., until you have 5 loops. Then 7 d s, draw, make one small scallop for first row, then 7 d s, join on last loop of large scallop, 2 d s, 1 loop, etc., until you have 4 loops, then 7 d s, draw, small scallop for first row, and so alternate until you have 5 large scallops on second row. Then join last loop of fifth scallop on first loop of first wheel.

FOR CORNER OUTSIDE WHEEL.

1 d s, 1 loop, 2 d s, etc., until you have 13 loops, 1 d s, draw. Then 7 d s, join to center ring, 7 d s, draw, 7 d s, join to first loop of second row next to large scallop. 7 d s, draw, 7 d s, join to second loop of center ring, 7 d s, draw, 7 d s, join to second loop of large scallop. 7 d s, draw, make alternately one scallop for first row and one for second row of 7 d s, join, 7 d s, draw, until you have 4 in first row and 3 in second row, then 7 d s, 1 loop, 2 d s, etc., until you have 5 loops. Then 7 d s, draw, then small scallop joined to first loop of first row. Then 7 d s, join to first loop of first large scallop, 2 d s, 1 loop, etc., until you have 4 loops, then 7 d s, draw. Then alternate one small scallop joined to first row, then 7 d s, join to first loop of second large scallop, etc., until you have all loops of first row filled and 8 large scallops on second row, fasten to first loop of second large scallop. This makes corner wheel; make others same as those before this. **MRS. M. R. WHITNEY.**

TRILBY FAN LACE.

Abbreviations:—Ch, chain; st, stitch; d, double; d tr, double treble; s, single; sl st, slip stitch.

Use a steel hook and a good quality of linen thread No. 40 or cotton thread No. 24, as either will make a wide and handsome lace.

Beginning with a fan, make a ch of 16 st; join.

First row—Ch 4, * 1 d tr (thread over twice) in loop, ch 1; repeat from * until you have 15 d tr; turn.

Second row—Make 2 d under first 1 ch, * 1 d under next 1 ch, ch 4, 1 d under same 1 ch, 2 d under next; repeat from *, forming 7 picots; turn.

Third row—Ch 5, miss first picot, fasten with 1 d over third d tr, and repeat around fan; turn.

Fourth row—Make 8 d under each 5 ch.

This completes the first fan. To begin the second fan, turn, make 1 s in each of 4 d (or ch 4), ch 9, fasten in center of next scallop, ch 4, turn, and repeat directions for first fan, beginning with * in first row, working the 15 d tr under loop of 9 ch.

The fans are all made in this way, the third being begun on the opposite end of the second fan from what the second fan was begun on, and so on, which makes a row of zig-zag fans. At the end of last row of sec-



ond and following fans ch 4, st sl in center of third scallop of preceding fan, ch 5, 1 d in second, forming a picot, ch 2, work up to center of first scallop, and continue.

CENTER RING.

1 d s, 1 loop, 2 d s, etc., having 13 loops, 1 d s, draw, make 1 small scallop for first row, as before, 7 d s, join to large wheel, first small scallop next large scallop, 7 d s, draw, then 7 d s, join to center ring, 7 d s, draw, turn, 7 d s, join to loop of large wheel, 7 d s, draw another small scallop for first row. 7 d s, join to loop of star between wheels. 7 d s, draw, small scallop for first row, 7 d s, join on first loop of second wheel of tidy. 7 d s, draw, small scallop for first row.

This single row of fans makes a pretty lace or insertion, or another row may be added.

The second row is joined to first row when being worked, by second, fourth, sixth, etc.

After making first 4 d in last row, on second lower fan ch 2, sl st in center of first scallop of first fan above, ch 2, fill the ch with d, 4 d under next scallop, ch, fasten to next scallop above, fill the chain, repeat same in working next 2 scallops, joining to

first and second scallops of third fan above, then complete the fan.

Join first and second scallops of fourth fan to third and fourth of third fan above, and third and fourth scallops of same fan to first and second scallops of fifth fan, and so on. Having made the rows of fans, add the edge as follows:

First row—Fasten in between first 2 scallops of first fan * ch 13, 1 d between next 2 scallops, ch 13, fasten between next 2, ch 15, fasten between first 2 scallops of next fan, and repeat from *.

Second row—Loops of 11 ch fastened in center of previous ch loops with 1 d.

Third row—Like second row.



Fourth row—Ch of 6 st each fastened in center of 11 ch.

Fifth row—A tr in first st, * ch 1, miss 1, 1 tr in next; repeat from * to end.

Sixth row—Fasten in first st, ch 5, 2 d tr in same place, keeping top loop of all on hook and working off together, ch 5, miss 6, 1 d in next, and repeat from *.

Seventh row—1 d in top of d tr, ch 6, and repeat.

Eighth row—Like fifth row.

For the lace only one side is finished with the edges. This lace makes a nice finish for the ends of tidies or bureau-scarfs.

MRS. WOOD.

TEA-CADDY BONNET.

This is surely a sunbonnet year, and one of the very pretty models is called the "tea-caddy bonnet." The front (a flaring front, after one of the patterns seen in FARM AND FIRESIDE) is cut from the straw covering a tea-caddy. These coverings are of red and plaided in various colors, many of them being very pretty. Line with a cheap lawn, letting the lining bind the front all around. The cape and crown are cut in one piece and arranged by a shirring-string; tack the crown to the front. Notch a narrow strip of the lawn with the scissors, and gather through the middle for a ruffle. It can all be done in a short time, and the cape and crown-piece can easily be unshirred and taken off to launder when they become soiled from frequent outdoor wear. They are much prettier than the old Shaker bonnets that were formerly worn so much, and very much cooler, because the front is not made as close as they were.

There is a little village in New York state where nearly all the young people are wearing the "tea-caddy" bonnets, and the children's bonnets are nearly all made of the straw plaided in red. They are so easily made that women in that place make them, furnishing the material for each one at twenty-five cents.

MARY JOSLYN SMITH.

"Money is very scarce here just now," writes Mrs. Alice Martin, Yokum, Texas, "and people are all acting on the principle of 'a penny saved is a penny earned.' But none can withhold appreciation of the FARM AND FIRESIDE and WOMAN'S HOME COMPANION. The latter is so dainty and graceful all feel that in ordering it they are making the best possible investment of fifty cents, one that will bring returns fourfold. I have been taking subscriptions for another ladies' journal at a higher price, but find a great many prefer the WOMAN'S HOME COMPANION because of its crispness and bright freshness, while the difference in price arrests universal and always surprised attention."



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THIS CAPE is made of very high-grade SEAL PLUSH; it is 24 inches long, very full sweep, double Empire back, elaborately embroidered all over, including collar, extra fine BLACK THIBET FUR edging around collar and front, heavily interlined and lined with Imperial satin in either black, light blue or red shades. These capes are made in the very latest style, and are such values as were never before offered by us or any other house. **WRITE FOR FREE CLOAK CATALOGUE** of everything in women's and children's wearing apparel. Address **SEARS, ROEBUCK & Co. (Inc.) Chicago, Ill.**

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The Ideal Hat Fastener is a perfect device for holding the hat on the head without a pin, no matter how hard the wind blows.

Just the thing for cyclists, in fact, every lady, young or old. Price 25 cents, by mail. Agents wanted. **IDEAL FASTENER CO., 280 1/2 Dearborn Street, CHICAGO.**

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warranted best fast color, all-wool black cheviot, elegantly lined, superbly satin piped, perfect in fit and style, very dressy and fully worth \$10.00. **SEND NO MONEY**, but send this adv. with height, weight, chest, waist and crotch measure. We'll express the suit C.O.D. and allow you to carefully examine and try it on before you pay one cent. Pay nothing if unsatisfactory. We make other suits from \$4.95 up. Write for free samples of cloth. **Louis Z. Vebon Co., 155-157 W. Jackson St., Chicago**

COMBINATION DIPPER—Seven useful articles in one. Samples FREE, prepaid, to AGENTS. Other articles new and catchy. Write, postal will do. **Rundell Mfg., Corning, N. Y.**

Our Household.

"Now, ma, what makes ye dawdle so? Why don't ye come to bed
An' not go wanderin' around? Yes, dawdle's what I said;
I'll bet there ain't no other word in Webster's spellin'-book
To picture out the way you move. Of course, you've got to look
Inside the closet once again—you've looked six times afore.
I'll bet you've walked a mile right up an' down this floor.
You've kissed the baby now four times; I've sorter lost the run
Of all them times you've tucked her in—now you may call it fun
To dawdle this way, but, my stars, ef I was tired as you
I'd go to bed an' git some sleep—"
"Now, sir, if you're all through I'm going to dawdle all I like; I'll tell you that right now.
I'll go to bed the way I please! You hear me? Anyhow—
You better sleep in t'other room ef you ain't satisfied—"
"Now, ma, I wouldn't git so mad—you know I only tried
To make things easy for ye—"
"I want you to understand I'm going to dawdle all I like, and won't take no command
From no such man as you be; you just get that through your head!
There's one place where I'll take my time, an' that's a-goin' to bed!"
—Rural New-Yorker.

THE TRIALS OF A FARMER'S WIFE.

THESE can be no doubt that one of the greatest trials of many a farmer's wife is the scarcity of neighbors and consequent loneliness, unless she has a large family or resources within herself to supply the lack of companionship.

It is a trial to be debarred from social life, from lectures, meetings and entertainments, as many are in these isolated homes.

Then, too, the environments of some homes are very unattractive; the buildings inconvenient and not in good repair, the outlook not pleasant, because of neglected fences, untrimmed trees and shrubberies, or the absence of them altogether.

Another trial is the want of sufficient help or labor-saving implements to lighten the often hard work; time for books, music and outdoor recreations.

A great many farmers keep hens, which are allowed the full range of the premises wherever they can get, and it is certainly a trial to have them about the door-steps and verandas. Just before the flower-seeds are planted and the house-plants nicely fixed in the beds it is doubly so, for it spoils half the enjoyment of the flowers to have them fenced in with wire.

My greatest trial as a farmer's wife is the want of strength for the amount of hard, heavy work that must be done, and coming to the farm as I did, in middle life, without much experience and with less adaptability than some, I find much that is disagreeable and trying (especially from house-cleaning, trying lard and tallow, and other work that comes at butchering-time). I am afraid I don't like housework well enough to make it successful in a farm-house. I like my easy-chair, with books and papers, and a walk in the woods and fields; but too often find refuge in that easy-chair, with folded hands, too tired to read and almost too tired to think. As for outdoor walks, they are generally few and short.

My house is large and my kitchen roomy, and a little French neighbor who used to sit on my back stairs and watch me passing to and fro about my work, said one day, "Why, you have walked more than three miles in your kitchen to-day."

Apropos of this I ran across a little anecdote the other day that may be of interest to the sisters: "Mother," said Farmer Gray to his wife, "what be you a-lookin' at Johnnie's bicycle so long fur?"

"I was a-wonderin', Silas," said she, "ef I couldn't have one of them there things that tell how fur you go hitched to me somewhere. I'm cur'us to know how many miles I travel in a day doin' this 'ere housework."

We all have our blue days, when the household machinery seems to be all out of gear—the milk gets spilled, some cherished dish is broken, the butter refuses to come, and everything goes wrong. "It is no use to cry over spilt milk;" tears will not mend

broken crockery, and hot milk or water put into the churn will prove more efficacious in turning the cream into butter than any amount of fretting.

The poet says:

"Into each life some rain must fall,
Some days must be dark and dreary."

The wind gets in the east, perhaps the roof leaks, the rain drives in around doors and windows; but get rags and mop and old tin dishes, and keep the flood out the best way you can; it will clear off sometime, for "sunshine always follows rain."

In some of our moods it takes very little things to try our patience and temper, when the sum of our trials, though individually small, almost overwhelm us. So we often need, as the "old lady" said, "to remember our mercies;" and remembering them we shall find that in most lives the blessings outnumber the trials. We must cultivate heart-sunshine, which will lighten them wonderfully. After all, I don't believe farmers' wives have more or greater trials than fall to the lot of most housekeepers.

MRS. J. C. CRAWFORD.

MY WAY OF SERVING PEACHES.

The old copy-books were right. "There is a right and wrong way of performing every task, and, unfortunately, the wrong way of sweetening uncooked peaches is the well nigh universal one of sprinkling dry sugar over the pared fruit and allowing to stand one hour or more before serving. Don't stay in this rut any longer, but adopt the newer way of using a rich, cold syrup, and prove its superiority.

Pare and halve ripe fruit an hour before it is needed; place the cut side upward in a serving-dish, dip the syrup over, and set in a cold place until ready to serve. For convenience's sake, and because the syrup

lemon; add the gelatin, stir until dissolved, add the juice of the lemon, strain into a deep bowl, and set in a pan of crushed ice. Beat with an egg-whip for five minutes; add the stiffly beaten whites of three eggs, and whip the whole until it is foamy all through and begins to thicken. Boil two cupfuls of granulated sugar and one cupful of water until it spins a thread. Pare half a dozen even-sized ripe peaches, cut off and discard both ends; cut the rest neatly into rings one half an inch thick, and sort them into three sizes. Commencing with the smallest, dip each ring in the syrup, drain, and cover the bottom of a mold that has been rubbed with soft butter; dip the next larger rings, and press a row around the side next to the bottom; fill the mold that deep with jelly, add the last row of fruit rings and the jelly, and set in a cold place six or eight hours to stiffen. Blanch as many peach-kernels as there are fruit rings on the bottom of the mold by pouring boiling water over them and allowing to remain until the skins can be rubbed off, then cover with cold water. Half an hour before the mound is needed carefully turn it out on a serving-plate, and brush over the top and sides with syrup; coat the kernel with syrup, stick one in the center of each ring on the top, sift a tablespoonful of powdered sugar over the top, and return to the ice-box. Serve with sweetened whipped cream flavored with almond extract.

KATHERINE B. JOHNSON.

CHILD'S DRESS.

Let the wool material be of one of the soft kinds that lends itself gracefully to draping. The cashmeres are very stylish this fall, and always wear well, and come in such lovely colors.

For a blonde select one of the soft dark reds for the main dress, making the guimpe of tucked white silk with a row of very narrow gilt braid beside each tuck. The ribbon trimming should be the color of the dress when white is used for a guimpe. If you wish black trimmings, make the guimpe of black satin.

TWO BLACKBERRY RECIPES.

BLACKBERRY JAM.—A Boston cooking-school says: "In the making of all jams and marmalades the proportion is three fourths of a pound of sugar to one pound of fruit."

Always put the fruit and sugar in layers, and let stand half an hour, to extract the juice. Put on to boil, and use a potato-masher to crush the fruit well. It must cook very thoroughly, as some seasons it will spoil in spite of the best of care. It keeps best in a tall, narrow-mouthed stone jar, and if well cooked, can be tied up with a cloth, after being covered with a paper dipped in brandy.

BLACKBERRY BRANDY.—To one quart of berry-juice add one pound of white sugar, one teaspoonful of powdered allspice and one teaspoonful of ground cloves. Boil for half an hour, remove from the fire, and let it cool; put all through a staining-cloth, and add one pint of good brandy; bottle and seal. This is invaluable for summer complaints.

BELLE KING.

BE PATIENT WITH THE OLD.

There is nothing more beautiful in this world than to observe the tenderness of some girls toward their aged relatives. Dear grandmother cannot thread her needles so easily as she used to, and is sensitive on the subject, and does not like to be too obviously helped, to have attention called to her failing eyesight, which she so much regrets and does not like to admit. There are two ways of meeting the difficulty. Mattie, a kind-hearted girl without much tact, will exclaim, "Oh, gran, what perfect nonsense for you to fuss over that needle! You know you cannot find the hole where the thread should go in: your eyes are too old. Give me the thing; I'll thread your needles!" The intention is most excellent, but the old lady is hurt and stifles a sigh. She had young eyes once, and she has the same independent spirit still. Edith, in the same circumstances, manages in another fashion. She simply threads a dozen needles and leaves them already for grandma in her needle-book, saying, pleasantly, "It saves so much time, dear, in these busy days, to have one's needles all ready and waiting."—Harper's Round Table.



should be added to the fruit as soon as the latter is prepared, a jar of syrup should be kept in readiness during the "peach season." To make the syrup, slice a dozen peach-kernels in a cupful of cold water, and simmer (covered) fifteen minutes; strain off the liquid, add enough cold water to make a pint, return to the fire with four cupfuls of granulated sugar, and boil slowly fifteen minutes, skimming as necessary.

PEACH SNOW.—When this is accompanied by lady's-fingers or gold-cake this will be a dainty course for a luncheon. Pare and quarter one quart of fine ripe peaches, pour over enough syrup to sweeten, and set aside on ice two hours before needed. Have one cupful of cream, one half a cupful of powdered sugar and the whites of two eggs also on ice. Half an hour before serving set the cream in a bowl of ice, and whip until it is three times its original bulk; add the sugar, beat smooth, flavor slightly with almond or vanilla extract, then lightly whip in the whites of the eggs that have been beaten to a stiff, dry froth, and return to the ice. When needed for the table, heap the snow over the peaches, sift one tablespoonful of sugar over the top, and serve in cold dishes.

PEACH MOUND.—Cover half a boxful of gelatin with cold water, and let stand to soften. Boil together twenty minutes two cupfuls of water, one cupful of granulated sugar and the grated yellow rind of one

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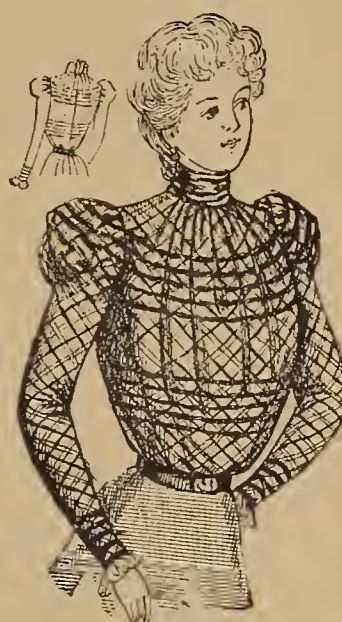
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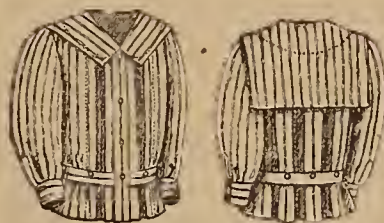
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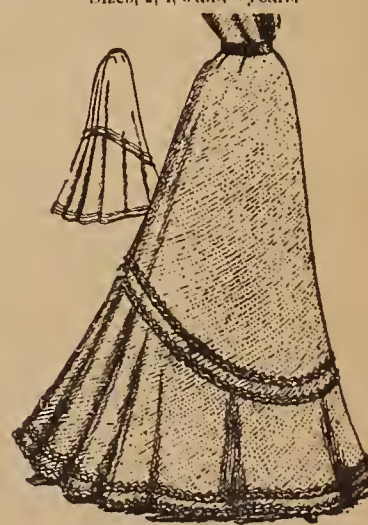
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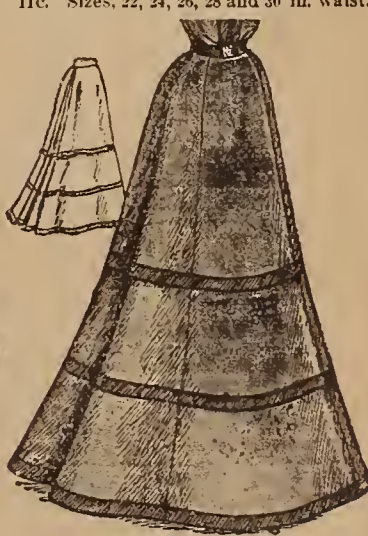
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Our Sunday Afternoon.

HYMN AFTER VICTORY.

God of our fathers, known of old—
Lord of our far-flung battle-line,
Beulah whose awful hand we hold
Dominion over palm and pine—
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

The tumult and the shouting dies—
The captains and the kings depart.
Still stands thine ancient sacrifice,
An humble and a contrite heart.
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

Far-called our navies melt away—
On dune and headland sinks the fire;
Lo, all our pomp of yesterday
Is one with Nineveh and Tyre!
Judge of the nations, spare us yet,
Lest we forget—lest we forget!

If, drunk with sight of power, we loose
Wild tongues that have not been in awe—
Such boasting as the Gentiles use
Or lesser breeds without the Law—
Lord God of Hosts, be with us yet,
Lest we forget—lest we forget!

For heathen heart that puts her trust
In reeking tube and iron shard—
All valiant dust that builds on dust,
And guarding calls not thee to guard—
For frantic boast and foolish word,
Thy mercy on thy people, Lord!

Amen.

—Rudyard Kipling.

A COVENANTER'S COURAGE.

IF we had lived when Graham of Claver-
house was scouring Scotland in search
of the brave Covenanters, that he might
drag them to prison or death for reading
the Bible or meeting for prayer or praise,
one day we might have seen walking lei-
surely along a young Scotch laddie. He has
a book in his hand, and he is absorbed in its
contents.

But hark! what is that sound of clatter-
ing hoofs and clasp of armor? It is a band
of that dreaded soldiery in search for the
rebels, so called. Soon they are up with the
boy.

"What is that you have in your hand?"
demands the leader of the troop.

"It's the Bible," comes from the firm
young lips.

"Thraw it in the ditch!" savagely shouts
the fierce captain.

"I wunna."

"Thraw it in the ditch, I say!"

"I wunna," says the pale-faced yet firm
young soldier of Christ, clasping his precious
treasure yet closer to his bosom.

The brutal captain, fierce with rage at
being thus defied by a "wee braw laddie,"
hisses out, "If ye diinna thraw it in yon
ditch I'll shoot ye!"

But Jesus Christ is with the boy, and
though death is staring him in the face, he
simply replies, "I canna, wunna!"

"Fire, men!" shouts the infuriated leader;
and the soft heather receives the warm life-
blood of the youthful martyr.

No Claverhouse rides over the land now,
but there are plenty of school-fellows to
sneer at those who "set themselves up to be
better than other people," and it sometimes
takes more courage to stand a taunt or a
curl of the lip than it does to bear a blow.
Let no one force you to give up your Bible-
reading, or, what is better still, your Bible-
living.—The Christian Endeavor World.

THE CHRISTIAN AS A LIGHT.

The other summer, while sailing along the
shores of the sound, I landed in a little cove.
There was a lighthouse-tower and a fog-bell;
and the keeper showed us the fog-bell, and
how the mechanism made it strike every few
minutes in the darkness and in the night,
when the fog hung over the coast; and I
said, "That is the preacher. There he
stands, ringing out the message of warning,
ringing out the message of instruction, ring-
ing out the message of cheer. It is a great
thing to be a preacher." And we went up
into the lighthouse-tower. There was a
tower that never said anything, and never
did anything—it just stood still and shone;
and I said, "That is the Christian. He may
not have a word to utter; he may not be a
prophet; he may not be a worker; he may
achieve nothing; but he stands still, and
shines in the darkness and in the storm.
The fog-bell strikes only on occasions; but
all the time and every night the light flashes
out of the lighthouse. All the time this light
is flashing out from you if you are God's
children. Let your light so shine. You can-
not let it shine unless you have it; and if
you have it you cannot keep it from shin-
ing.—Lyman Abbott, D.D.

THE SECRET OF SUCCESS.

I have seldom known a more striking in-
stance of the secret of success than in the
case of a lad who was acting as clerk and
general helper in a store where some Span-
ish trade was done. He noticed that when
the Spanish consignment of goods came in
the senior partner always got the letters and
was kept for two or three nights later check-
ing goods and answering the correspondence.
The senior was the only man in the house
who knew Spanish, and all this extra work
fell on him. The young fellow began to
learn Spanish, and after some months aston-
ished the senior one day by saying, "Give
me the invoice of that Spanish consignment,
sir, and I will attend to it."

The senior looked up. "Do you know
Spanish?"

"A little, sir."

"When did you learn it?"

"Just recently."

"Well, young man, you astonish me. You
are the only clerk in this store for thirty
years who has had the grit and gumption
to do anything extra. There, if you can
work for me you shall have it always."

It is needless to say he did it and paved
the way for his future success. His learning
Spanish was the extra winning inch in life's
race; it was the proof that he could jump
higher than other boys in the store.—David
Beaton.

LIFE'S POSSIBILITIES.

Do not pray for easy lives. Pray to be
stronger men. Do not pray for tasks equal
to your powers! Pray for powers equal to
your tasks. Then the doing of your work
shall be no miracle, but you shall be a
miracle. Every day you shall wonder at
yourself, at the richness of life which has
come to you by the grace of God. There is
nothing which comes to seem more foolish
to us, I think, as years go by, than the lim-
itations which have been quietly set to the
moral possibilities of man. They are placidly
and perpetually assumed. "You must not
expect too much of him," it is said. "You
must remember that he is only a man, after
all." "Only a man!" That sounds to me
as if one said, "You may launch your boat
and sail a little way, but you must not ex-
pect to go very far; it is only the Atlantic
ocean." Why, man's moral range and reach
is practically indefinite; at least, no man has
yet begun to comprehend where its limits
lie. Man's power of conquering temptation,
of despising danger, of being true to prin-
ciple, have never been indicated, save in
Christ. "Only a man!" That means only a
son of God; and who can say what a son of
God, claiming his Father, may become, and
be and do?—Phillips Brooks.

CHEERFULNESS.

Cheerfulness can become a habit, and hab-
its sometimes help us over hard places. A
cheerful heart seeth cheerful things.

A lady and gentleman were in a lumber-
yard situated by a dirty, foul-smelling river.
The lady said:

"How good the pine boards smell!"

"Pine boards!" exclaimed the gentleman.
"Just smell the foul river!"

"No, thank you," the lady replied, "I pre-
fer to smell the pine boards."

And she was right. If she or we can
carry this principle through our entire liv-
ing we shall have the cheerful heart, the
cheerful voice and the cheerful face.

There is in some houses an unconscious
atmosphere of domestic and social ozone
which brightens everybody. Wealth cannot
give it, nor can poverty take it away.—Miss
Mulock.

VICTORY.

When your good is evil spoken of, when
your wishes are crossed, your taste offended,
your advice disregarded, your opinions rid-
iculed, and you take it all in patient, loving
silence—that is victory.

When you never care to refer to yourself
in conversation, or to accord your own good
works, or itch after commendation, when
you can truly "love to be unknown"—that
is victory.

When you are content with any food, any
raiment, any climate, any society, any sol-
itude and any interruption—that is victory.

When you can bear with any disorder,
any irregularity, any unpunctuality, any
annoyance—that is victory.—T. J. Campbell.

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Will send free Book of Particulars how to cure
"Drunkenness or the Liquor Habit" with or without
the knowledge of the patient. Address Dr. J. W. Hames,
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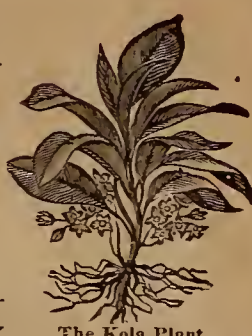
ASTHMA

AND

HAY-FEVER CURES

BY THE

Kola Plant



The Kola Plant

Free A New and Positive Cure for Asthma and
Hay-fever has been found in the Kola Plant,
a rare botanic product of West Africa ori-
gin. So great are the powers of this New Remedy that
in the short time since its discovery it has come into
almost universal use in the Hospitals of Europe and
America for the cure of every form of Asthma. The
cures wrought by it are really marvelous. Among
others the editor of the *Farmer's Magazine*, of Wash-
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many years' suffering, especially in Hay-fever season,
the Kola Plant completely cured him. He was so bad
that he could not lie down, night or day, for fear of
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writes that the Kola Plant cured her in two weeks.
Rev. S. H. Eisenberg, Centre Hall, Pa.; Rev. John L.
Moore, Alice, S. C.; Mr. Frank C. Newall, Market
National Bank, Boston, and many others give similar
testimony of their cure of Asthma and Hay-fever, after
five to twenty years' suffering, by this wonderful new
remedy. As the Kola Plant is a specific constitutional
cure for the disease, Hay-fever sufferers should use it
before the season of the attacks when practical, so as
to give it time to act on the system. If you suffer
from Asthma or Hay-fever, in order to prove the power
of this new botanic discovery, we will send you one
Large Case by Mail entirely free. All that we request
in return is that when cured yourself you will tell
your neighbors about it. It costs you absolutely noth-
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on the public during the last few years, but none of
them do in any way compare with the original; they
all lack in scientific construction, durability, and
in producing good results.

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Nervous Complaints, Physical Decline, Weakness,
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Plating. Gent and Ladies at home
or traveling, taking orders, using and
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Watches, Jewelry, Tableware, Bicycles,
and all metal goods. No experience, heavy
plate, modern methods. We do plating,
manufacture ornate, all sizes. Guar-
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We teach you the art, furnish secrets
and formulas FREE. Write today. Testimonials, samples,
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Ladies or gentlemen
desiring a paying gen-
teel business should
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We want one person to represent us in your local-
ity, and you will soon congratulate yourself upon
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You can easily make \$18 to \$40 a week. Address
MAST, CROWELL & KIRKPATRICK, SPRINGFIELD, O.

WORKERS WANTED

AT HOME (whole or spare time) to color photo-
graphs, memorials, etc., for the trade,
with our oriental colors. Any person can do the work,
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AGENTS WANTED To sell good sash lock.
Stops all rattling.
Locks Window Securely Anywhere.
Strong, Simple, Durable, Cheap. Sells quick
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in working for me. Ladies
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great opportunity. OUT-
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Workers write at once to
E. HANNAFORD, Springfield, Ohio.

WANTED An energetic man or lady in this
and adjoining counties to travel
for manufacturing house and appoint agents; also
one for local work. Salary \$75 per month and ex-
penses. Address with reference and previous occupa-
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20 TONS OF GOLD Fortunes are made in
shares in gold mines.
Write us and we will tell you about the mines of Cripple
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GOOD MEN will you help distribute 5,000,000 pieces adv.
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SPECTACLES at wholesale. Send
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AGENTS WANTED Free outfit. Several earn \$25 weekly
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WRITERS WANTED to do copywriting at home.
LAW COLLEGE, Lima, O.

ALL KINDS OF WATCHES from 95c. upwards. Catalogue
sent free. Safe Watch Co., P. O. Box 150, N.Y.

Smiles.

THE SHADIGANDIAN REFORMER.

I'm a moral regulator, and I feel it is my mission
To keep my fellow-citizens from traveling
to perdition;
I feel my mission in my bones, I'm made to regulate
The morals of my fellow-men and keep my neighbors straight.

I hunt for sin on every trail, through wood and swamp and mire,
And when I drive it from its lair I lift my gun and fire;
I hunt the sin through hidden ways, through many a covert path,
And pulverize the sinner with the thunder of my wrath.

Born was I in a slyle age, a sinful neighborhood;
My fellow-townsmen all were bad, and not a soul was good.
So, in this town of Shadigand, when I was young and strong,
I told the Shadigandians that they were foul with wrong.

My neighbors' sins filled me with grief almost beyond control.
The weight of Shadigandian sin was heavy on my soul.

"I'll make this place as virtuous as any in the land,
I'll make," said I, "a virtuous town this town of Shadigand."

"The time will come," I said, "'twill come when sin will disappear.
When in this town will not be found a single sinner here."

And I have done the thing I said—a work of some renown—
For now, to-day, there is not left one sinner in the town.

I'd meet men on the highways, and I'd show them they were bad,
And give them all a catalogue of all the sins they had;
I'd greet them in the fields at work, and look them in the eye,
And cry aloud and spare them not and smite them hip and thigh.

I'd follow them to market, and I'd follow them to mill,
And show their gross perversities of thought and deed and will;
And then I'd seek them in their homes, and preach for days and days,
And show to them the fearful wrong and error of their ways.

And I convicted them of sin; they all began to go;
Yes, they all trickled out of town in one continuous flow;
And my own wife and family departed with the rest,
And left this town of Shadigand an unpolluted nest.

And so my prophecy came true that sin would disappear—
There's not one sinner left in town—I'm all the soul that's here.
But you, sir, you're a sinful man—your sin your soul has hid—
What's that? You're going to leave the town?
Just what the others did.
—Sam Walter Foss, in New York Sun.

INATTENTION CURED.

A HOLMES story always shakes up the blood-cells as well as points a moral. This one hails from Boston, and must be authentic. The "Santerer," in the Boston "Budget" says:

It seems that in the lecture-room one day the doctor was much annoyed by the inattention of the students.

"Gentlemen," he said with emphasis, "a physician's first duty is accurate observation and rigid attention. You are neither looking at what I am doing nor hearing what I am saying. I shall dismiss the class now, but hereafter remember that I shall exact the closest attention."

The next day the doctor came into the lecture-room with a bottle containing a very dirty-looking liquid.

"Gentlemen," he said, "I hold in my hand a bottle of jalap. Of course, you are aware that as physicians we have very many disagreeable duties to perform. We must, for instance, test such messes as this in order that we may accurately know their taste. It is a somewhat nauseous operation, but a necessary one. Observe, I first place my finger in the bottle and in my mouth."

The class was visibly disgusted, but the lecturer had placed it on the ground of a physician's duty. So, with many grimaces, they all dipped a finger in the bottle and then placed the same finger on their tongues.

When the bottle came back to the doctor he chuckled audibly.

"Gentlemen," he said, "had you remembered my remarks at the last lecture about accurate observation you would have saved

yourselves a very disagreeable experiment. An accurate observer could not have failed to notice that I put my forefinger into the bottle and my middle finger in my mouth."

HIS GUILTY CONSCIENCE.

The gray-haired stranger bent over the desk.

"Are you the society editor?" he questioned. "I am the identical," said the flippant young man.

"Are you the person who wrote up the account of the Mann reception?"

"Yes. Anything wrong about it?"

"That's what I want to find out. Look here. You notice that in speaking of my daughter you use this paragraph: 'She swept about the room with an inherited grace that caught every eye.' Now, what was your purpose in writing that?"

"Why, it struck me as a first-class chance for a neat compliment to her esteemed parents, that's all."

"Sure you didn't mean to insinuate that her father laid the foundation of his fortune peddling brooms?"

"Certainly not."

"Because I did, you know."

"I didn't know it."

"Then that's all right. Good-night."

"Speaking of brooms," he said, "will you join me in a little whisk?"

And they went down the stairs together.—Cleveland Plain Dealer.

HIS ENVIABLE CONDITION.

"Great Scott! What is the matter out there in the street?" exclaimed a recently arrived stranger; "who is that ragged wretch crouching in the dust and striving to protect his head from the blows that are being showered upon him, and who are those men who are so savagely assailing him?"

"They ain't assaultin' him; they are congratulatin' him," replied the landlord of the Pettyville tavern; "we've had here, all in one week, our village band's first concert, a giggin' couple married in a balloon, a six-legged calf and a petrified man holdin' a joint reception in a tent, an amateur minstrel performance, a vitascope operated and explained by a stuttering man, a two-headed mermaid show, a school election, an acrimonious church quarrel, six book-agents, a donation party, and an 'Uncle Tom's Cabin' company. This fellow that them men are swarmin' around dropped into town jest a while ago wearin' a placard announcin' that he is deaf, dumb and blind; and those are prominent and envious citizens pattin' him on the back."—Puck.

THE QUEEN'S ENGLISH.

Two men, a German and a Frenchman, who met in New York, had a heated argument over the question whether the wife of a state governor had any official title or not. One contended that she should be addressed as "Mrs. Governor So-and-So." The other stoutly insisted that she was simply "Mrs. So-and-So, wife of Governor So-and-So." They finally agreed to leave the matter to the first man they met. He proved to be an Irishman. They stated the case to him, and asked for his decision. "Nayther of yez is right," he said, after a moment of severe cogitation. "The wife av a governor is a governess."—Newcastle Chronicle.

THE FLOWER OF THE FAMILY.

He thought it safer to write to the girl's father for her hand. He was an ardent lover, but a poor speller, and his note ran: "I want your daughter—the flour of your family."

"The flour of my family is good," replied the old man. "Are you sure it isn't my dough you're after?"—Yonkers Statesman.

LITTLE BITS.

Rigby—"Did you fire your cook?"
Digby—"No; she fired herself."
Rigby—"French leave?"
Digby—"No; gasoline."—Brooklyn Life.

"Well, Pat, have you learned to ride your bicycle yet?"

"Sorra a hit, sor. Sure, Oi can't aven balance meself standin' still, let alone ridin'."

Guest—"Walter, did you say this was the genuine turtle soup?"

Waiter—"Yes, sir: It was made out of the water of a pond near here in which a turtle was kept last summer."

Little boy—"Mama, they call all the Wall street men bulls or bears. Which is papa?"

Mama—"Oh, dear Willie, don't ask so many questions; go and ride your velocipede."

Little boy—"Well, I just want to know whether I am a calf or a cub."

Little five-year-old Nettie, who had been brought up in the city, was spending a few days in the country.

"Grandma, what are those funny little green things?" she asked, as they were passing through the garden one day.

"Why, those are peas," was the reply.

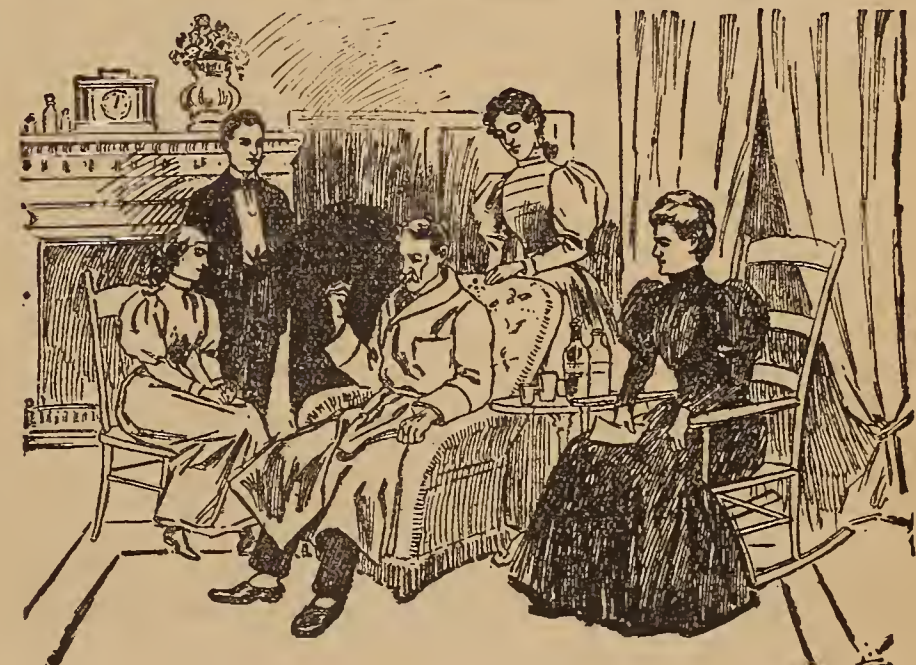
"Peas!" exclaimed Nettie, "peas come in tin cans."—Philadelphia Times.

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Chainless Bicycles
\$125

Columbia Chain Wheels, \$75
Hartford Bicycles, 50
Vedette Bicycles, \$40, 35

POPE MFG. CO., Hartford, Ct.

The 'Newest' Bicycle
with 'Oldest' Name
Make Hill
Climbing Easy



A consumptive patient, who made use of Ripans Tabules, found his weight increased but was made anxious because expectoration ceased, and feared, on that account that harm would result, but on consulting a physician he learned that Ripans Tabules do not affect the conditions of the lungs in any material degree, but if they do so at all they have more tendency to favor expectoration rather than to suppress it. Consequently there is no reason why a consumptive should discontinue the use of Ripans Tabules because expectoration has ceased. Furthermore, in lung troubles an increase in weight is the best indication of improvement, and as the Tabules regulate the digestion they increase nutrition and are doing the very service required to produce best results.

A new style packet containing TEN RIPANS TABULES in a paper carton (without glass) is now for sale at some drug stores—for FIVE CENTS. This low-priced sort is intended for the poor and the economical. One dozen of the five-cent cartons (120 tabules) can be had by mail by sending forty-eight cents to the RIPANS CHEMICAL COMPANY, No. 10 Spruce Street, New York—or a single carton (TEN TABULES) will be sent for five cents.

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Permanently cured by using DR. WHITEHALL'S RHEUMATIC CURE. The surest and the best. Sample sent free on mention of this publication. THE DR. WHITEHALL MEGRIMINE CO., South Bend, Indiana.

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HOW TO REDUCE IT

Miss M. Nobles Raine, Wis., writes: "Your remedy reduced my weight 34 lbs. and I think it is the simplest and grandest remedy in the world to reduce superfluous fat." It is purely vegetable and can be prepared at home at little expense. No starving. No sickness. Sample box and full particulars in plain envelope sent free to anyone. It costs you nothing to try it.

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Cleanses and beautifies the hair. Promotes a luxuriant growth. Never Fails to Restore Gray Hair to its Youthful Color. Cures scalp diseases & hair falling. 50c. and \$1.00 at Druggists.

Dr. HAYES, ASTHMA

Cured to Stay Cured

PILES

Absolutely cured. Never to return. A Boon to Sufferers. Acts like Magic. Trial box MAILED FREE. Address, Dr. E. M. BOTOT, Augusta, Maine.

WIVES

Don't send money. MRS. MAY HAWKINS, Grand Rapids, Mich. Lock Box 131, D. H.

MOTHERS

Send self-addressed envelope and I'll tell you how to cure drunkenness without the patient's knowledge.

RUPTURE

detention from work. No return of Rupture or further use for Trusses. A complete, radical cure to all (old or young). Easy to use; thousands cured; book free (sealed). DR. W. S. RICE, Box F, Adams, New York.

Sure Cure at home; at a small cost. No operation, pain, danger or

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TO AGENTS—Complete outfit for big paying business. All profits clear, as we prepay charges. The rush is on, so come quick. FARM AND FIRESIDE, Springfield, O.

LADIES!

A friend in need is a friend indeed. If you want a regulator that never fails, address THE WOMAN'S MED. HOME, Buffalo, N. Y.

FITS

A Great Remedy Discovered. Send for a FREE package & let it speak for itself. Postage 3c. DR. S. PERKEY, Chicago, Ills.

RUBBER GOODS

of every description. Cat'g free. Edwin Mercer & Co., Toledo, O.

BED-WETTING

CURED. Sample FREE. Dr. F. E. May, Bloomington, Ill.

IF AFFLICTED WITH SORE EYES

USE DR. ISAAC THOMPSON'S EYE WATER

Our Miscellany.

A SPANISH PRISONER.

High o'er his head the starry flag is floating,
But on his breast he wears the saffron gold;
Our prison-bars securely close around him,
Though, Migo, friend, the name we have enrolled.

But never once he seems to hear the cheering
That greets the story of a victory won;
And cares no whit that we are all rejoicing
When news is brought us of a brave deed done.

He sits apart and sings, with sweetest cadence,
The songs learned long ago in sunny Spain;
We cannot chide him, for we love the rebel;
Our gold canary from the Spanish main.

—Lucie H. Thurston, in Boston Evening Transcript.

DOVE-HUNTING IN THE SOUTH.

I was in Alabama about a week ago," said a New York man, who was making a flying visit to his club, "and was asked if I wanted to go hunting. When I inquired the nature of the game my host replied 'doves'. It staggered me for a minute. But while I was trying to decide, a negro stopped a two-horse wagon in front of the house and called out to know of my host's man if he wanted to buy any game. 'What you got?' asked the man. 'Doves,' was the answer. 'How many you got?' the man asked. 'Bout five hundred,' was the reply.

"And do you people hunt doves?" I asked of my friend. "And kill them, and eat them?"

"Certainly. In season," he answered. "We have no deer as you New-Yorkers have; we have no moose as they have in Maine and in the Northwest. And we have never had an abundance of quail since the Civil War. So we hunt and kill and eat doves. I suppose you think it very sinful."

"When I was a boy," I replied, "I was taught that to injure a dove was to invoke the wrath of the Creator. And it was believed in my section that the dove was sacred."

"My Alabama friend replied that he had heard the same thing. 'But,' he said, 'they used to say the same thing about the lamb; then they said the hog wasn't fit to eat. Niggahs eat 'possum and coon. Beef we get ain't fit to eat half the time; there's been no quail since the wah. turkey comes only once a year, and it's dove or nothing. And I reckon if old Noah had had such special high regard for the dove as some folks think he wouldn't have turned it out when there wasn't a place for it to roost. I reckon old Noah knew as much about birds as anybody. He knowed mighty well which ones he wanted to keep in the coop to begin business with when he landed.'

"The argument was convincing, but still I declined to go dove-hunting."—New York Sun.

JOE'S SISTER AND THE PAPER CROWN.

That is a very interesting story which relates how Mrs. Czrzon, when a little girl, was seen strutting up and down a room wearing a paper crown, while she remarked, "I will be a queen some day." The lady who tells the story adds significantly that "many a truth is spoken in jest." All of which is undeniably true, but at the same time we have no special reason to believe that the prediction has been verified or is likely to be verified, or that little Miss Mary prophetically gave utterance to a sparkling truth. We suppose there has never been a little girl in this delightful city of Chicago who has not at one time or another adorned herself with a paper crown and announced that she is going to be a queen. Little girls have a weakness for this sort of thing, and yet we have no recollection that any young woman of our town has ever ascended a throne, save for temporary and unimportant purposes. Somebody has said that all American women are queens. Of course, not even the women themselves believe such wild hyperbole, but it is a gallant remark, and if it makes them feel good for the time being there is no objection to the phrase. Let the little girls play with their paper crowns and utter their mock-solemn predictions, for we are making history nowadays, and Cuba or Hawaii or the Philippines may yet ask for a queen.—Chicago Post.

WALNUT FOREST BURIED BY AN EARTHQUAKE IN 1811 EXHUMED.

Secretary Watson of the Lumberman's Exchange reported yesterday that within the last two months a vast forest of walnut had been unearthed in southeast Missouri. In 1811 an earthquake in that part of the state resulted in the sinking of large tracts of land. Since then there have been annual floods in that district, each year adding to the accretions. Less than two months ago two farmers, walking through a part of the district, noticed what to their eyes seemed to be the ends of walnut-trees sticking out of the sunken places and tipped over. Remem-

bering that vast amounts of cedar-wood have been dug up in various places, the farmers reported their observations, and the ground was explored. It was found to be rich in trees of black walnut from twenty-eight to thirty-six inches in diameter.

Secretary Watson states that there are two parts to a walnut-tree. The center consists of solid, black wood and the rest of the tree is a soft, sappy growth, which is of little use for commercial purposes. In these new trees just unearthed the sap has all rotted off, leaving only the black heart or solid portion of the tree. This is found to be a fine specimen of walnut, with an unusual depth of color.—St. Louis Globe-Democrat.

AS WAS DONE UNTO HIM.

Catching at the stranger's coat-tail, he murmured, in a deprecating tone:

"Could you give me a little assistance, sir?" The stranger turned and looked him over. His eyes were bloodshot, his clothes dirty, his whole appearance decidedly the worse for wear.

"What do you want?" was the reply to the tramp.

"A job after I get a square meal," said the tramp.

"What can you do?" asked the stranger.

"I can keep hooks, sell goods, drive a delivery-wagon, compound prescriptions, set type and do farm-work."

The stranger scribbled a few words on a card, handed the tramp a dollar, and said, "Take this card to this address, and I think it will get you work. Take that dollar, get a bath, a shave, a hair-cut, something to eat and a drink of whisky. That will brace you to meet my friend. So long."

"There's just one thing more," said the tramp. "How do you happen to give me just a dollar and all these directions with it?"

"Because I got a dollar from a man on this very corner about ten years ago," said the stranger, "just as you are getting it from me, and I'm passing up his advice and his money just for luck."—Chicago Chronicle.

WHERE THE HEBREW CHILDREN ARE.

Out of 9,000,000 Jews, 5,000,000 are found in Russia. Of the remaining 4,000,000, 1,500,000 are in eastern Europe, 1,000,000 in western Europe, 1,000,000 in America and only 70,000 in Palestine. In Great Britain there are 101,000 Jews, of whom 64,280 live in London, 33,070 in the provinces, 2,000 in Scotland and 1,779 in Ireland. Of these, British born number twenty per cent; German, seven per cent; Dutch, five per cent; Russo-Polish, fifty-eight per cent; others, ten per cent.—New York Sun.

GREAT EVENTS IN BISMARCK'S CAREER.

Bismarck's career, says the New York "Tribune," was a series of battles. First, for the Prussian crown against republicanism; next, for the Prussian crown against Austria; then for the German crown against France; again for the German crown against the Vatican; and finally, for the German crown against political factions and Socialist tendencies. From first to last he wore the uniform of the king's man.

FORESTRY SPECULATIONS.

The Florida "Farmer" says: "The theory that deforestation causes failure of rainfall, occurrence of frosts, depletion of the soil, and, finally, decadence of the human race itself, has become so generally diffused that probably nothing that can be said will ever eradicate it."

This expresses the exact truth and has always been the stand taken by the writer of this paragraph. The speculations have done great injury to true forestry interests. Our native forests will eventually disappear. Trees will not live forever. Rotten trees and rotten underbrush invite forest fires, and while these conditions exist forest fires will prevail. When the native forests disappear, as disappear they certainly will, we shall have to do as other nations do, plant new forests. New forests will only be planted when it is to the individual interest to do so. Up to the present time there has been little necessity for the investment of capital in this direction. The opening of railroad lines has brought available forests within the reach of the lumber-dealer. Until these are exhausted new forests will not be planted to any great extent, although it has already been thought advisable, and if some intelligent effort was given in this direction, the true interests of forestry would be vastly served.

DID IT LIKE AN AMERICAN.

When the attack was made on Sidon, in the war with Syria, it became necessary for the British troops to advance across a long, unprotected bridge in the face of a battery of six guns, which completely commanded the approach. The men were unwilling to expose themselves to certain death, when Arthur Cumming, carefully dressed in full uniform, stepped forward to the middle of the bridge. It was immediately swept by the fire of the battery. When the smoke had rolled away there stood Cumming intact, carefully brushing the dust from his boots, after which he stood erect, fixed a single glass to his eye, and looked back at the men. This was too much, and they captured that bridge and battery with a whoop.—San Francisco Argonaut.

A HARD LIFE.

"It's hard to tell just what to do," said the man who was sitting on the back porch in his shirt-sleeves.

"Yet one ought to get a start with such brilliant prospects opening up all over the world," remarked the next-door neighbor, who was mending a hole in the fence.

"Yes, but supposing I had gone to the Klondike. I'd be so far away now that I couldn't go and help develop Cuba. And if I go to Cuba I'll miss the chance to go when the next rich territory opens up. There's no use of trying to deny it. This is a hard life."

And then he tilted his chair back against the wall and went to sleep.—Washington Star.

"Peerless Atlas sells better than any book I ever saw," writes W. E. Moore, Frisco, Ark. "Everybody is more than pleased with it. No other agency suits me anything like as well." The new edition has in it the statistics of Greater New York, a highly interesting feature.

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Below we list a number of premiums which have been fully described in previous number of Farm and Fireside. We guarantee each and every premium to give entire satisfaction or money refunded

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Special price of Farm and Fireside one year and "Life of Lincoln," - 45c.
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Any offer may be accepted and the name can be counted in a club. Renewals and new subscribers, including a club-raiser's own subscription, may be counted in a club.

Postage or expressage paid by us, if not otherwise specified.

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Special price of Farm and Fireside and "Standard Cook Book," - 35c.
"Standard Cook Book" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and Set of Six Teaspoons, - 75c.
Set of Six Teaspoons given free for a club of four subscribers.

Special price of Farm and Fireside and "Prodigal Son Picture," - 40c.
"Prodigal Son Picture" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and "People's Atlas," - 40c.
"People's Atlas" given free for a club of two yearly subscribers.

Special price of Farm and Fireside and "Samantha Among the Brethren," - 35c.
"Samantha Among the Brethren" given free for a club of two subscribers.

Special price of Farm and Fireside and "Life of Washington," - 45c.
The "Life of Washington" given free for a club of three subscribers.

FREE

A NEW 300-SHOT

AIR-RIFLE

We here offer the new 1898 Globe Air-rifle, which has several important improvements, making it the best and most perfect Air-rifle ever invented. By special arrangements with the manufacturers we are enabled to offer it for very small clubs, compared to its cost and value.

Description

The Rifle is made of excellent material. It is 35 inches long, with nickel-plated barrel. It has a globe sight and wooden stock. It is so simply and strongly made that a bright boy can quickly take it all apart, clean, and put together again. It is a very hard shooter. It will carry a bullet over 500 feet, and is just the thing for killing rats, etc. It is easily and quickly loaded.

1 1 1

Shoots 300 Times

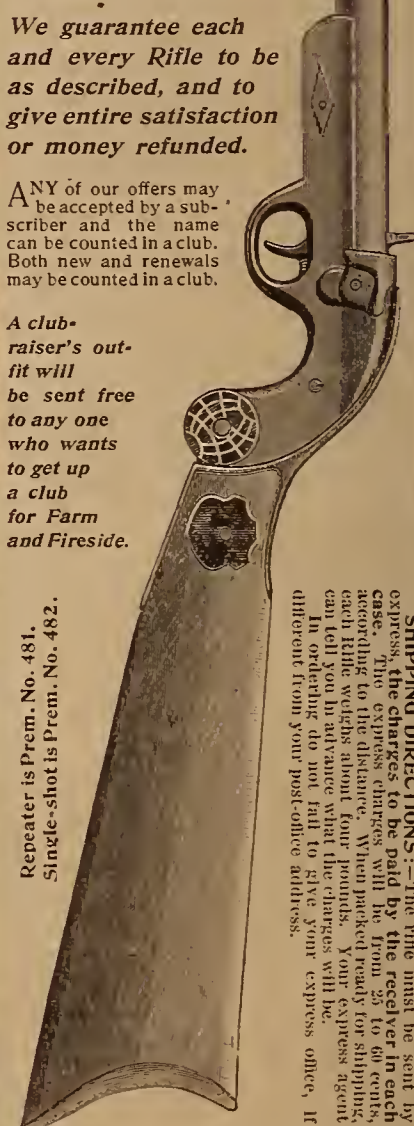
The ammunition-chamber in the Repeater holds over 300 bullets. The Repeater is operated by pressing down a spring after each shot. The ammunition is B. B. shot, which is for sale in stores everywhere. Ten cents will buy about 1,000 bullets. Owing to its accuracy, hard shooting and the cheapness of its ammunition, this new Globe Air-rifle is very popular alike with grown-up people and boys. By a little practice remarkable skill in marksmanship can be attained.

We guarantee each and every Rifle to be as described, and to give entire satisfaction or money refunded.

ANY of our offers may be accepted by a subscriber and the name can be counted in a club. Both new and renewals may be counted in a club.

A club-raiser's outfit will be sent free to any one who wants to get up a club for Farm and Fireside.

Repeater is Prem. No. 481.
Single-shot is Prem. No. 482.



Price of the Repeating Globe Air-rifle, and Farm and Fireside one year, \$2.00.

We will send the Repeating Globe Air-rifle free as a premium for a club of eight yearly subscribers to Farm and Fireside; or for a club of six and 50 cents cash; or for a club of four and \$1 cash; or for a club of two and \$1.50 cash. (See shipping directions above.)

Price of the Single-shot Globe Air-rifle, and this paper one year, \$1.50.

We will send the Single-shot Globe Air-rifle free as a premium for a club of six yearly subscribers to Farm and Fireside; or for a club of four and 50 cents cash; or for a club of two and \$1 cash. (See shipping directions above.)

FARM AND FIRESIDE, Springfield, Ohio.

SHIPPING DIRECTIONS:—The rifle must be sent by express. The charges to be paid by the receiver in each case. The express charges will be from 25 to 60 cents according to the distance. When packed ready for shipping, each rifle weighs about four pounds. Your express agent can tell you in advance what the charges will be. In ordering do not fail to give your express office, if different from your post-office address.

60 BULBS FREE

These 60 Bulbs Given Free for a Club of Two.

The 60 Bulbs, and Farm and Fireside One Year, 50 Cents.

A Dollar's Worth of Bulbs

When these sixty bulbs are ordered from florists' catalogues, at retail prices, they cost not less than One Dollar. The bulbs are all fresh from Holland, the greatest bulb-growing country in the world. We guarantee that they will arrive safely and grow and give entire satisfaction or money refunded.



We will send this collection of sixty bulbs, by mail, postage paid, and Farm and Fireside One Year, for 50 Cents.



Premium No. 466.



Every flower lover will surely appreciate this bargain in bulbs. Those who have not yet tried growing flowers from Holland bulbs should not let this opportunity to get a start pass by. Their wealth of bloom and perfume will afford great delight to the grower. All of the bulbs will bloom this fall and winter if planted now in pots, or if bedded out in the yard will bloom next spring.

60 Bulbs Assorted as Follows:

- 4 lovely HYACINTHS, different colors, fine.
- 6 lovely TULIPS, lovely sorts, all different.
- 6 lovely NARCISSUS, lovely sorts, all different.
- 12 FANCY IRIS, nothing finer in flowers.
- 12 CROCUS, 5 sorts, named.
- 10 FREESIAS, fine mixed sorts.
- 10 OXALIS, all different colors.

Hyacinths are the most popular of all winter-blooming plants. Passing down a city street when snow covers the ground, it is a treat to see numerous windows filled with the magnificent bloom of the hyacinth. They are very beautiful and very fragrant.

Tulips are such universal favorites that it is scarcely necessary to expatiate upon their merits here. Their ease of culture, combined with beauty of form and gorgeous coloring, renders them the most popular bulbs grown for spring bedding, and for winter flowering in windows they are incomparable. The tulip is extremely hardy and of easy culture, flowering as easy in the shade as in the sunshine.

Narcissus or Daffodils Sweet harbingers of Spring, that jump from old Winter's lap, and bedeck the earth with beauty, filling the air with delicious perfume. "The Flowers of the Poets" merit all the praise that can be bestowed upon them. Appearing as they do just after bleak winter, they turn our gardens and lawns into gorgeous masses of gold and silver, with a fragrance that is enchanting. They are equally valuable for growing in pots for winter-flowering. They are perfectly hardy.

Iris The Iris are fast coming into favor. They are entirely hardy, and increase rapidly when planted in the flower-garden. They should be planted in the fall. If every lover of flowers could see this grand plant in bloom we really believe not one in one hundred would refuse to pay one dollar for one or more bulbs of it. Among all flowers there is hardly one of such oddity and striking beauty. The bloom is of enormous size, and in describing it we say "It is chocolate and black mottled, beautifully veined with grayish white," yet from this no one can form a correct idea of how the plant looks. It is indescribable, and the planter will be surprised when he sees it. It is perfectly hardy, and blooms in May. In July the foliage dies down, and the bulbs lie dormant until late fall or the next spring. Try it, and when it blooms you will undoubtedly pronounce it the most beautiful flower in your garden. Ready for November. Price 25 cents each; three for 60 cents.

Crocus The Crocus is one of the first flowers of spring, and one of the best for blooming in the house during winter. Four bulbs may be planted in one pot, and will make a very pretty show. For garden culture plant bulbs two inches deep and two or three inches apart. They are so pretty they ought to be found in every garden in abundance. They bloom splendidly when planted on the lawn among the grass. They bloom very early.

Freesia No description can do adequate justice to this beautiful plant. The flowers are two inches long and about the same width, shaped like miniature gladioli, borne in clusters of six to ten on depressed horizontal scapes. The body of the flower is pure white, with lower segments spotted lemon-yellow. The perfume is most delicious, and one plant is sufficient to perfume a large room. Its cultivation is of the simplest, requiring only to be potted, watered sparingly at first, placed in a sunny window and watered more as growth progresses. When out of flower, store in some place and repot at proper season in fresh soil for another year's growth.

Oxalis This is one of the finest winter-flowering plants for pot culture. It is such a strong, luxuriant grower that one bulb will be sufficient for a six or eight inch pot. Place in a dark, cool position for a few weeks to root thoroughly, and remove to a sunny situation in the window, and the great profusion of bloom produced in uninterrupted abundance for weeks will astonish and delight you. Flowers of the purest bright buttercup-yellow. Well-grown plants have produced as high as seventy flower-stems at one time, and over one thousand flowers in one season. The flowers, and frequently the leaves, fold up at night and open again the next morning, but when grown in a partially shaded situation the flowers remain open all the time. They will flower in about eight weeks from the time the bulbs are planted.

These 60 Bulbs will be Given Free for a Club of Two Yearly Subscribers to Farm and Fireside.

The 60 Bulbs, and Farm and Fireside One Year, 50 Cents.

Postage paid by us.

Address FARM AND FIRESIDE, Springfield, Ohio.



Notice to Club-raisers....

Thirty cents is the clubbing price for yearly subscriptions to Farm and Fireside, without a premium. Thirty-cent subscriptions count in clubs. Members of clubs may accept any of our offers, and the subscription can count in clubs just the same.

RENEWALS and new names, including a club-raiser's own subscription, can be counted in a club. Positively no reduction will be made or allowed from the above prices. No commission allowed. A premium will be sent to one address and the paper to another, when so ordered.

INSTRUCTIONS HOW TO GET UP CLUBS

We give a premium FREE for sending ONLY ONE other name with your own. Let us illustrate:

A and B are neighbors. If A sends B's subscription with his own it makes a club of two, which entitles A to his choice of any one of the premiums given free for a club of two—as the 60 Bulbs.

Now, a subscriber may accept any offer and the name can be counted in a club. To illustrate:

If, in the above case, A takes the "Dictionary" with his subscription he pays 40

cents; if B takes the 60 Bulbs with his subscription he pays 50 cents. This makes a club of two. Thus B gets the 60 Bulbs as a premium because he pays for them. A gets the "Dictionary" because he pays for it, and, in addition, A gets the 60 Bulbs free for getting up the club of two; and so on for other premiums and larger clubs, as the case may be.

It is just as cheap for your neighbor to let YOU send his subscription as to send it himself, for all of the money collected by club-raisers must be sent to us.

The premiums are not sold alone.

95c FOR CORN SHELLER

This is the most simple and effective arrangement for shelling corn ever made. There are only 6 pieces in the entire machine. Main frame, shell disc, shaft, tension, ring and crank. This sheller separates the corn from the cob, and deposits the corn in the box on which it is mounted and the cob outside. It has a perfect tension that can be adjusted instantly, will shell all sized ears, pop corn to the largest southern dent. Weighs 12 lbs. Sent to any address, by freight, on receipt of 95 cents. For all kinds of Corn Shellers, send for our Free Agricultural Implement Catalogue.

SEARS, ROEBUCK & CO. (Inc.) Chicago, Ill.





See This Style of Steel Roofing?

It is but one of the many styles made by us. All our styles are recognized as the BEST in style, material and workmanship. Do you need any roofing, siding, eavestroughs or spouting? Write us for prices and information.


GEDGE BROS. ROOFING CO., ANDERSON, IND.

Advance Fence

IS SOLD DIRECT TO THE FARMER. WE PAY FREIGHT AND IS SOLD ONLY THAT WAY.

That saves the farmer all the middleman's profit and brings his fence within a price that he can afford. Then he has a fence that is a fence when he's done with the job. IT'S ALL INTERWOVEN; no loose ends. TIE WIRES CANNOT SLIP. Don't buy until you get our circulars and extra special discounts to farmers—Sent Free.

ADVANCE FENCE CO., 4 Old St. Peoria, Ill.



4 BUGGY WHEELS \$6.50

HIGH GRADE, SARVEN'S PATENT, tired and balanced, height 3 ft. 4 in., 3 ft. 8 in. or 4 ft. Spokes 1 1/16 or 1 1/8 in. For any other sizes send for catalogue. Cat this ad out and send to us with ONE DOLLAR, state size wheel wanted and we will send them by freight C. O. D. EXAMINE THEM at your freight depot and then pay freight agent balance, \$5.50 and freight charges.

SEARS, ROEBUCK & CO. (Inc.) CHICAGO, ILL.



SUGAR-CANE MILLS and EVAPORATORS

With a full line of Sugar-making Supplies. High-grade goods. Low prices. For full information and prices write the

J. A. FIELD MFG. CO., ST. LOUIS, MO.




DRINK PURE WATER

By Using the Bucket Pump and Water Purifier on Wells and Cisterns. Will Purify a Foul Well or Cistern in Ten Days' Use, or Money Refunded.

Draws ten gallons of water per minute. No tubing to rust, burst or wear. Will not rust; chain and buckets made of galvanized steel. Can be set up in fifteen minutes. No attachments below the platform. Will not freeze; buckets having hole in bottom drain themselves. Makes bad water good, and good water better. Prevents Scarlet, Typhoid and Malaria Fevers. Illustrated catalogue and valuable reading on pure water sent free. Address

Bucket Pump Co., 1408 Plum St., Cincinnati, O. Mention this paper.



A LONG SIEGE.

After thirteen years of continuous assault by all kinds of stock, the first Page Fence, we built are still impregnable against "land forces."

PAGE WOVEN WIRE FENCE CO., Adrian, Mich.



"ELI" Baling Press

33 Styles & Sizes.

makes compact, even-sized bales that fit nicely in a car, admitting of heavy loading thus saving freight. Has 53x80 in. Feed Opening. Patent automatic block placer—no more crushed hands or arms. All Steel, Strong, Fast, Easy Power. Illustrated catalog free.

COLLINS PLOW CO., 1116 Hampshire St., QUINCY, ILL.



OSGOOD 3 Ton \$35

TANDARD SCALES

Full Descriptive Catalogue FREE

OSGOOD SCALE CO., Binghamton, New York.

Good Agents Wanted in unoccupied territory.



Life of a Wagon

is in the wheels. Our Steel Wheels never wear out. We make the BEST manufactured in America, staggered or straight spokes, all sizes to fit any size skein. Write us for catalogue FREE.

Havana Metal Wheel Co., Havana, Ill.



FARMERS

SAW MILLS, PLANERS, COIN MILLS, HAY PRESSES, WATER WHEELS. Send for Catalogue.

DeLoach Mill Manufacturing Company, Atlanta, Ga., St. Louis, Mo.

Our Farm.

HAZELNUTS.

On many farms in this country hazelnuts could be raised as a profitable side crop, and since they are generally regular in their bearing, and because the demand for them is practically uniform, they should be fairly profitable where the winters are not too severe.

Hazelnuts may be propagated by seeds, layers, cuttings, buds and grafts. The first method is unreliable in the reproduction of varieties, since the seed seldom comes true. The following method is practised when feeding stocks are raised upon which to graft or bud named varieties. The nuts are gathered when fully ripe, placed in an airy room until they fall from their husks, after which they are planted not later than November, or if to be sown in the spring, are stored in sand in a cool place to prevent drying out.

When the young plants appear, only one stem is allowed to grow. When large enough it is grafted or budded, by which methods the time of fruiting is considerably advanced. The suckers produced around the collars of the plants make good cuttings. They should be about ten inches long and be treated exactly as gooseberry and currant cuttings are. But if the parent plants have been grown from buds or grafts, care must be taken to select suckers above the union of the stock and the scion. Before the cuttings are set, all but two or three buds at the upper end should be removed to prevent the production of suckers when the tree is set out. After two years in the nursery row the plants will be ready to set out.

Hazelnuts will not do well in stiff clay or in dry sandy ground. A medium loam with well-drained subsoil will produce most nuts upon least wood. Wet and strong soils favor the production of wood at the expense of fruit and hardness of tree.

If set as in orchard-planting the trees should be ten feet apart each way, but when planted in hedges the distance in the rows need not be so great. The trees should be cultivated in the same manner as other orchard crops.

A favorite method in orchard-training, on account of its ease of maintenance, is the goblet form. Young trees having from five to eight shoots are selected, which, after being trimmed back somewhat, are spread out and tied to barrel-hoops. These are allowed to remain until the branches are strong enough to retain the position desired. The only pruning necessary, aside from the retention of the goblet form, is to remove about one half the young growth, the object being to produce laterals, upon which the nuts are borne most freely. After having fruited, these fruit spurs should be cut back nearly to the main stem, to favor the production of fresh-bearing wood. Careful pruning will pay well, the extra crop produced more than offsetting the additional trouble and expense. If the trees seem to be producing too much, which they may often do, root-pruning may be practised. If they commence to sucker, the earth should be scraped away from the main stem and the suckers and buds all carefully removed.

The nuts should be gathered only when fully ripe and when perfectly dry. This may be determined by their rattling in the husks when the tree is slightly shaken. They should then be collected and placed under cover to still further dry out and where they may be fumigated with sulphur to improve their color and to prevent them from molding. They may then be packed in barrels and stored in a cool, dry place, a little salt being sprinkled over them. The salt is claimed to prevent attacks of insects and to aid the nuts in the retention of their color.

An orchard in full bearing should yield at least half a ton of nuts to the acre, although with proper care and favorable conditions double that quantity is possible. When five years old the trees should bear two pounds or more each, and should increase in productivity as they grow older. The wholesale price is seldom as low as five cents a pound, six or seven being the usual figure. They usually retail for about ten cents.

M. G. KAINS.

LOWEST RATES EVER OFFERED.

For the G. A. R. Encampment, September 5th to 10th inclusive, the C. H. & D. Ry. will sell round-trip tickets to Channahon at the lowest rates ever known. Tickets on sale September 3d to 5th inclusive. Circular No. 48.

"American Women" is a grand panorama of object-lessons, and will do much good in elevating the American people. I never sold a book into which I could put so much enthusiasm. I love to handle it."—W. A. Moore, Warren, Ind.


DISSTON'S

It will pay you to buy a Saw with "DISSTON" on it. It will hold the set longer, and do more work without filing than other saws, thereby saving in labor and cost of files. They are made of the best quality crucible cast steel, and are

FULLY WARRANTED.

For Sale by all Dealers.

Send for Pamphlet, or "Saw Book," mailed free. HENRY DISSTON & SONS, Philadelphia, Pa.

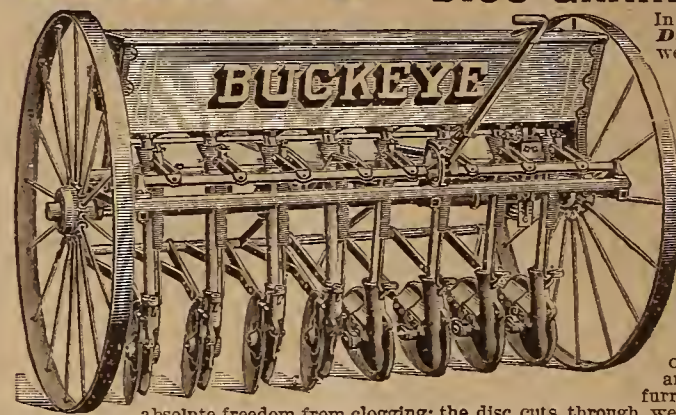


BUCKEYE STEEL FRAME DISC GRAIN DRILL

In the manufacture of this new Disc Drill we have applied the well known advantages of the disc principle to a grain drill. The fact that it bears the stamp "BUCKEYE" will prove a sufficient guarantee of its quality. It is the equal in construction of our other well known and popular drills. It is equipped with the same Buckeye Double Run Force Feed, and New Buckeye Speed Device, for changing feed, that is found on our other drills.

The Advantages of the disc when applied to a drill are the complete opening of the furrow for receiving the seed. The absolute freedom from clogging; the disc cuts through weeds, corn stalks, stubble, etc. They are somewhat lighter in draft also. Ours are equipped with either chain covers or spring press wheel covers. This is a perfect Disc Drill and will meet every requisite of such a machine. Don't buy until you secure our catalogue and prices. Sent free. Write for them at once.

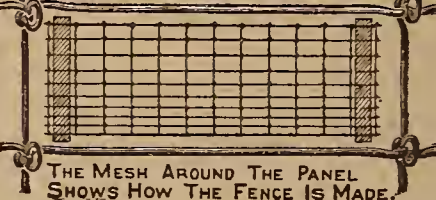
P. P. MAST & CO. 17 Canal St., SPRINGFIELD, OHIO. Branch House, Philadelphia, Pa.



PERFECT FARM FENCE

Made of best doubly annealed galvanized steel wire. Top and bottom wires No. 9. All other wires No. 11. We use the strongest stay wire in any woven wire fence on the market—hence more strength and durability. Our LOOP KNOT new feature, patented, provides perfect expansion and contraction and keeps it tight at all temperatures. Our LOOP KNOT being uniformly distributed throughout each foot of fence is, in effect, the same as placing one coil of a spiral spring in every foot throughout the entire length of fence. BESIDES GREATLY STRENGTHENING IT. Our Loop Knot makes the fence plainly visible and impossible for stay wire to slip or give. It is Hog tight and Bull strong. Will turn all kinds of stock without injuring them. Where we have NO AGENTS a LIBERAL DISCOUNT will be given on introductory order. Reliable farmer agents wanted in every township. Send for catalogue and prices.

PITTSBURG WOVEN WIRE FENCE CO., - PITTSBURG, PA.



SAVE MONEY.—DIRECT SALES TO FARMERS.

You have the benefit of the Agents' Commission and the Middleman's profit.

| ANALYSIS. | Phos. Acid. | Ammonia. | Actual Potash. |
|---|-------------|----------------|-----------------|
| | per cent. | per cent. | per cent. |
| Pure Raw Bone Meal..... | 22 to 25 | 4 to 5 | \$22 00 per ton |
| Scientific Corn & Grain Fertilizer..... | 9 to 10 | 2 to 3 | 16 00 " |
| Scientific Economy Fertilizer..... | 9 to 10 | 2 1/2 to 3 1/2 | 20 00 " |
| Scientific Tobacco Fertilizer..... | 11 to 12 | 3 to 4 | 21 00 " |
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| Bone and Meat..... | 13 to 15 | 4 to 5 | 18 00 " |

THE SCIENTIFIC FERTILIZER CO.,
For samples and book, write P. O. Box 1017. Herr's Island, Pittsburgh, Pa.

Avery's Wonderful Rolling Coulter

MOON PATENT

Eases Plowing in Vines. Eases Plowing in Trash.

For Introduction we will send a sample of this wonderful coulter (state size of your plow in inches it cuts), express charges prepaid to any depot in the U. S. on receipt of \$4.00 and the address of your implement dealer, (with whom we want to arrange to carry them in stock.)

Saves in draft, compared with jointer, 35 per cent. in plowing sod lands, for marsh work is perfect. Enables any walking plow to turn perfectly any growth of mammoth clover, weeds, &c., without clogging. Shoe presses down all weeds and trash, holds same firmly while being cut, prevents tough grass from doubling over its edge or clogging it in soft soil. Is a perfect gauge as to depth (adjustable up or down) and no wheel or jointer is needed with coulter in use. Bolts on to any plow, wood or steel beam. Thousands in use.

B. F. AVERY & SONS, Mrs., Louisville, Ky. Established 1825.



HARTMAN'S STEEL PICKET FENCE.

HANDSOME ENDURING STRONGER THAN IRON. CHEAPER THAN WOOD. HANDSOMER THAN EITHER.

Made from the best steel wire and woven into a handsome fence, which when constructed with our ornamental steel posts adds greatly to the beauty of the lawn, flower garden or the cemetery lot. The ideal fence for enclosing Public Grounds, Church Yards, Court Yards, School Grounds, etc. Catalogue and Circulars FREE.

HARTMAN MFG. CO., ELLWOOD CITY, PA., OR NEW YORK OFFICE, 227 Broadway, N.Y.



Cheap Farm Fence

Steel King Fence Machines, Yard or Lawn Fences, Farm and Yard Gates, Steel Farm Fence Posts, Coil Spring and Galvanized Fence Wire, Barb Wire, and Staples, all sold direct to farmers at wholesale prices.

CATALOGUE FREE. KOKOMO FENCE MCH. CO., 12 NORTH ST. KOKOMO, IND., U. S. A.



WHEEL FOR

Surprising? Yes! But a fair offer positively limited to only one party in any one town. You pay nothing until satisfied. Write for particulars to

GEO. E. MARSHALL, 103 State St., Chicago.

SILOS Are Filled Quickly and Economically with "New Hero"

ENSILAGE CUTTERS BECAUSE THEY EXCEL in rapid strength, durability and simplicity. Two gears only on the complete cutter. Sizes to suit all needs. STRONGEST GUARANTEED. SOMETHING NEW: OUR UNIVERSAL SWIVEL CARRIER, runs at any desired angle, and can be changed from one angle to another without stopping cutter. New 180 page catalogue mailed FREE. Tells all about Hero Ensilage and Fodder Cutters. Corn Huskers Sweep and Tread Powers, Feed Mills, Goodhue, Wind Mills, Shellers, Peck's Corn Thresher, etc. 9 FABO ST., APPLETON MFG. CO. Batavia, Ills.



HENCH & DROMGOLD'S GRAIN FORCE FEED and Fertilizer Drill

Positively the neatest, lightest and strongest grain drill on the market. Many points of superiority; it is geared from the centre. Quantity of grain and fertilizer can be changed while in operation without the use of gear wheels. Fully guaranteed. Positively accurate in quantity. Give one trial and be convinced. Agents wanted. Circulars free. Address HENCH & DROMGOLD, Mfr's, York, Pa. Mention this paper.



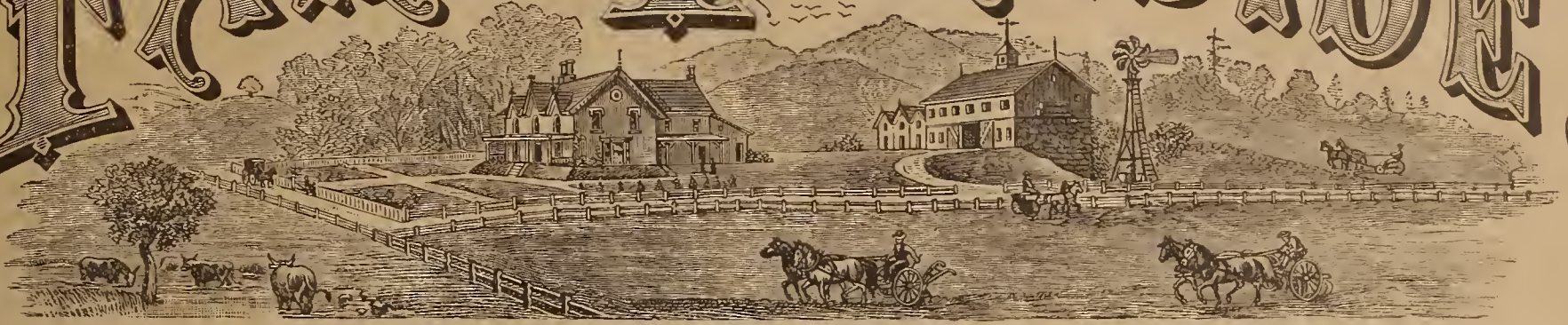
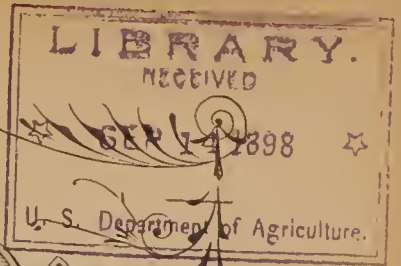
HORSE-HIGH BULL-STRONG PIG-TIGHT

Laying aside all speculation these remain as the requisites of a perfect fence. Our Duplex Automobile Machine makes just such a fence in 100 styles at the rate of sixty rods per day, at a cost for wire of only 15c. for a good farm fence; 19c. for poultry fence; 16c. for a rabbit-proof fence and 12c. for a good hog fence. We will sell you plain, coiled spring or barb wire direct at wholesale prices. Get our catalogue before buying.

Kilselman Bros., Box 225, Ridgeville, Ind.



FARM & FIRESIDE



EASTERN EDITION.

Entered at the Post-office at Springfield, Ohio, as second-class mail matter.

VOL. XXI. NO. 24.

SEPTEMBER 15, 1898.

TERMS 50 CENTS A YEAR.
24 NUMBERS.



In order to introduce them into homes where they are not now taken, we offer

BOTH OF OUR PAPERS

Farm and Fireside and Woman's Home Companion

FOR THE REMAINDER OF THIS YEAR

For 15 Cents

You should call your friends' attention to this bargain offer. See advertisement on page 11.

WITH THE VANGUARD

EMPEROR NICHOLAS II. of Russia is now in the public eye. In a formal note to all governments represented at St. Petersburg the czar has purposed the assembling of an international conference for the purpose of securing general peace and ending the progressive increase in armaments. The text of the note reads, in part, as follows:

"The maintenance of general peace and the possible reduction of the excessive armaments which weigh upon all nations present themselves in existing conditions to the whole world as an ideal toward which the endeavors of all governments should be directed. . . . In the course of the last twenty years the longing for general appeasement has grown especially pronounced in the consciences of civilized nations; and the preservation of peace has been put forward as an object of international policy. It is in its name that great states have concluded among themselves powerful alliances.

"It is to better guarantee peace that they have developed in proportions hitherto unprecedented their military forces, and still continue to increase them, without shrinkage from any sacrifice. Nevertheless, all these efforts have not yet been able to bring about the beneficial result desired—pacification.

"The financial charges following the upward march strike at the very root of public prosperity. The intellectual and physical strength of the nations, labor and capital, are mostly diverted from their natural application and are unproductively consumed. Hundreds of millions are devoted to acquiring terrible engines of destruction, which, though to-day regarded as the last work of science, are destined to-morrow to lose all their value in consequence of some fresh discovery in the same field. National culture, economic progress and the production of wealth are either paralyzed or checked in development. Moreover, in proportion as the armaments of each power increase, they less and less fulfill the object the governments have set before themselves.

"The economic crisis, due in great part to the system of armaments, the outrage, and the continual danger which

lies in this massing of war material, are transforming the armed peace of our days into a crushing burden which the peoples have more and more difficulty in bearing.

"It appears evident that, if this state of things were to be prolonged, it would inevitably lead to the very cataclysm it is desired to avert, and the horrors whereof make every thinking being shudder in advance. To put an end to these increasing armaments and to seek the means of warding off the calamities which are threatening the whole world—such is the supreme duty to-day imposed upon all states.

"This conference will be, by the help of God, the happy presage for the century which is about to open. It would converge into one powerful focus the efforts of all states sincerely seeking to make the great conception of universal peace triumph over the elements of trouble and discord, and it would, at the same time, cement their agreement by a corporate concentration of the principles of Europe and right whereon rest the security of states and the welfare of peoples."

The argument on which the czar's proposal is based is a powerful one. It is estimated that the annual expenditures to maintain the armies and navies of Europe now amount to one thousand million dollars. The military system that attempts to maintain the peace of Europe by making such a formidable armed camp of each country that no other power dare attack it is an enormous burden on the people, and must in time break down from its own weight. It is the foresight of impending national bankruptcy that impels the statesmen of Europe to give thoughtful consideration to the czar's noble proposition. It is one of the utmost importance to the common people of Europe. They struggle now under a crushing burden. Their social and industrial progress depends on the solution of this grave problem. Can it be solved in international conference?

THE resolutions adopted by the Saratoga National Conference on the foreign policy of the United States declared, that the liberated people of the surrendered islands are temporarily the wards of the nation; that we should treat them as such, and that with our views of natural right and of the inestimable privilege of civil liberty we would not be justified in returning the conquered islands to the misrule and oppression from which we have relieved them; that as soon as they can be trusted to govern themselves they should be allowed home-rule, either independently or as a part of the United States; that until such time they should continue under our protection, and that the question whether at some future period at the mutual desire of both they should be permanently annexed should be left to the time when it arises.

COMMENTING on some very liberal estimates of the wheat crop, the Cincinnati "Price-Current" says:

"The intimation that the amount of wheat actually in existence in this country is the greatest on record is hardly consistent with available information. The production in 1891 is recognized as having been equal to 675,000,000 bushels—which is as high as present estimates can safely be placed for 1898. The warehouse stocks are 10,000,000 bushels smaller than in 1891 in August. The invisible supplies of old grain have also beyond question been brought to a decidedly lower point than in 1891. The absorption of new grain has been more active. In view of these conditions, with the indication that the crop is not larger than in 1891, it seems to be too much to assume that the amount of wheat actually in existence in this country is the greatest on record. It is doubtful if the amount is as much as in 1891. And the same observation may be applied to the aggregate with reference to other countries, in the comparison with 1891."

The spring and early summer estimates of a 700,000,000-bushel wheat crop was, undoubtedly, an exaggerated one. Threshing returns have, in many instances, cut down the earlier estimates by twenty per cent, and some claim that they forecast a crop no larger than was grown last year.

SENATOR CUSHMAN K. DAVIS, one of the five American members of the Paris Peace Commission, is unreservedly for expansion. In a recent interview he said: "The American people are aglow with patriotic fervor, and the utmost calmness is necessary in considering our future course. Events have made us one of the great powers of the earth. Whatever we may have desired ourselves hitherto, destiny has forced upon us responsibilities that we must recognize and accept. We have become a potent factor in the world's progress. A greater actual naval and military power we are already. We are not strong enough yet, but not an hour must be lost in equipping ourselves to cope with any emergency that may confront us. Our volunteer army is as good, if not better, than any force of the kind in this world, but we cannot rest secure in that thought. We must have a large regular army ready at call in the future. We must have as good a navy as any nation on earth. We have an excellent beginning. Ship for ship we need fear nobody. But we must build ships with true American energy. Nothing must deter us. We know that we have the men to put behind the guns. Love of gunnery is an American characteristic. When we were boys, all of us knew how to handle firearms. A gun is the earliest thought of the American youth. Men are only grown-up boys. That explains our success at Manila and Santiago.

"Actually, we are not a whit more exposed to attack as a colonial power than we have been every hour since the active advent of steam sea-power. The glorious victories of our navy have brought us new responsibilities, but the Philippines or the Sandwich islands are not more isolated than are parts of our Pacific coast. Hereafter our power must be felt on the Pacific ocean. The mere addition of a few hundred square miles of territory by capture or treaty does not increase our danger. China is the coveted part of the earth's surface to-day; but who could have predicted six months ago that Russia, Germany or Japan would not covet a foothold on the North American continent? Now we see the trend of events in the East. Providence has stepped in to point the future course for us. We must police the Pacific ocean. Its coast has been our vulnerable point. You understand, I am on record as favoring the retention of territory that has been acquired by the splendid victories of our arms. I am an American citizen, speaking as such, and my remarks have nothing to do with official duties that I shall undertake on October 1st as a commissioner to the Congress of Paris.

"We have risen to a new plane—to the level that we really were entitled to hold all along. Nothing but the indifference of our statesmen has prevented the United States from occupying the place to which it belonged. The American people have had the courage of their destiny all the time. They have never faltered.

"Hereafter, I tell you, the maritime, commercial, and political genius of our people will not permit their governing power to be indifferent to their honor or their progress. An outrage like that at Santiago de Cuba (the Virginius massacre)—where nearly half a hundred Americans were stood up against a wall and shot—would not be passed over to-day.

"How do you suppose a similar massacre of American citizens in Havana would be received this afternoon? Why, our warships would be on their way to that point before midnight. That's the difference. And it is well. It is as it should be.

"The United States has ceased to be the China of the western continent. We are alive, thank God, and must not be insulted by any power in the world, great or small. That's the difference between the United States of the '70s and to-day. And isn't the change one that ought to make every patriot glad? Wars are inevitable—or all history is false. Steam-power has broadened their area. No nation is safe. Japan's triumph over China was robbed of most of its value to the victorious nation by the intervention of a stronger power. Are we to be weak like Japan? Can we contemplate for an instant the interference of any power that shall abridge the majesty and glory laid at our feet by the incomparable Dewey? I say 'never.'"

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ABOUT RURAL AFFAIRS.

Coffee Substitutes. One of our experiment stations has investigated the matter of coffee substitutes, especially the ones that are put up on a commercial scale and offered for sale in our grocery-stores done up in fancifully decorated boxes at something less than the prices that genuine coffee can be bought for. Unfortunately, I mislaid the report, which, to me, although not suggesting any new idea, was very interesting. It brings the matter home to me more closely just now when the conviction has been growing upon me that the free indulgence in even the best genuine coffee affects my general health, especially my nervous system, and my digestion in a decidedly injurious manner. There is no doubt in my mind that the American people would be a good deal better off, have stronger nerves and sounder stomachs, and therefore less dyspepsia and headaches, if tea, coffee and whisky were entirely wiped out of existence. None of these are fit for free, every-day use; all may have a place in medical practice. I know that my headaches increase in frequency and severity as I indulge more freely in the use of genuine coffee, and seem to leave off almost entirely when I use harmless coffee substitutes. For this reason I have tried the various things that are recommended to take the place of the real coffee. One of these substitutes is sold under the name of "Grain-O," and to all appearances consists of a mixture of beans, wheat or other grains, and probably chicory, all roasted like the real coffee and ground. A decoction of this, when sugar and plenty of good cream are added, will be found quite palatable, and to a fairly good imagination quite coffee-like in flavor. With some good-will (especially if we could create a prejudice in its favor) people would soon learn to like this as a daily beverage, and not to miss the real coffee.

* * *

Home-made Coffee. The only thing that I can object to in such things as "Grain-O" is its cost. This is also the chief objection urged against these coffee substitutes generally by the experiment station which made the investigation. A two-pound package sells for fifteen cents, and will not go much farther than one pound of the real coffee, if it goes as far. Barley, wheat and soy-beans are worth only from one to

two cents a pound, and could be roasted and ground at a small additional cost. Taking the shrinkage of weight in due consideration, a pound of such grain coffee might be sold for four cents and yet leave a margin of profit. But why use these commercial coffee substitutes at all, when anybody can make his own at a fraction of the cost of the other? The soy-bean alone makes one of the very best of these grain coffees; but if one prefers, wheat, barley, rye or bran may be added, and the mixture varied to suit individual taste or to the materials which one may happen to find available. A little of the prepared chicory from the store may be added, if desired.

* * *

The Soy-bean. The production of the soy-bean is a very simple matter. The earlier varieties (usually giving the smallest beans) will thrive and come to maturity almost anywhere in the northern states, and they are not so very particular as to the character of the soil so long as that is well drained and warm. Where you can grow corn or common field-beans you can also grow soy-beans, and it should not cost you \$1 a bushel to grow them. I have quite a patch of the two varieties of soy-beans which have recently been advertised by seedsmen under the misnomer "American Coffee-bean." They grow on one side of my patch of field-beans, and do well under the same treatment that the latter receive. I shall have a good many more, of course, than I could possibly use for coffee purposes, but they will come handy for feeding poultry and hogs. In fact, when mixed with corn and perhaps other grains, and ground, there can be no better feed than this for about all kinds of farm stock. The soy-bean is the richest of all grains in muscle-forming elements, and it seems palatable to farm stock besides.

* * *

Commission Dealings. The least that can be said against the plan of consigning country produce to commission men is that it is a somewhat expensive method of selling. Even if these agents of ours take the greatest pains to sell the goods consigned to their care at their full value, and then make an honest report to the shipper, the latter sees his returns materially cut down by deductions for transportation, cartage and commission charges. And then there is always the chance of loss by the dishonesty of commission men. Whoever has been dealing with them right along can tell of losses more or less heavy on that score, and has learned to expect the frequent occurrences of commission houses suddenly going out of business and forgetting or being unable to make returns. The greatest caution is always necessary, both in the selection of the commission man to whom to make consignments and in enforcing prompt settlements after the goods have been sold. I live at a distance of about twenty miles from the big market in Buffalo, and when I leave any produce at the commission stores there I can look after them pretty closely, and therefore avoid many losses that would fall upon me if I had to let these men have their own way, or if I were not as well acquainted with them and their standing. If I have large quantities of anything at one time, as, for instance, early apples, pears, etc., I load up one or even two wagons during the day, and take them to Buffalo during the night, ready to sell the goods on open market early in the morning. I have just marketed five hundred baskets of Clapp's Favorite pears in this way, and have followed the plan of selling whenever a reasonable price could be obtained, taking twenty-five cents a (one third bushel) basket cash rather than relying on the promises of commission men to sell them for me at thirty-five cents a basket. The Germans say "ready cash smiles." Where the distance from market is not too great I would prefer hauling perishable products on wagons rather than shipping by express or freight, unless whole car-loads can be shipped. If roads are reasonably good I can put my stuff on the market in better condition by hauling on a good spring-wagon than on the railroad. I take over one hundred and thirty baskets of apples or pears (equal to from forty-two to forty-five bushels) on a two-horse wagon, or sixty baskets on a single-horse wagon. I thus save something on the freight, and all of the cartage, and know exactly in what shape I get the stuff to market. And I have the cash in my pocket without delay.

* * *

I never allow my commission merchant to be tardy in making reports and remit-

tances. It is not safe. The commission man is legally bound to make his returns without delay, and the shipper should hold him to it. When I don't hear from my man in the city within a short time after shipping I go there and call for my money, and I am bound to get it or know the reason why. The commission man is only my agent, and the money—less his commission and expenses—is mine as soon as he gets it from the buyer. His business is to sell for cash only and to turn the cash over at once. But I find that there is a great difference in commission men. One will sell at a good deal better figure than another. So the commission man should not only be honest and prompt, but in order to do full justice to his customers he should be a good salesman and be possessed of good judgment. He must know what he can get for his goods; he must sell at some price, and always dispose of the goods at the time when in prime. It is better to have him sell a barrel of early apples for one dollar or even less rather than wait until the apples have all rotted and must be dumped. Recently I divided a lot of early apples (in baskets) between three commission houses. The apples were not of a popular variety, green and only of medium size. Two of the commission men sold their lot at ten cents a basket; the third held his lot over till the next day and sold it at twenty-five cents a basket. The same man has always sold my Barletta pickling-onions at from eighty cents to one dollar and twenty-five cents a one third of a bushel basket, while other dealers could not sell a basket for over seventy-five cents. My friends will see that it will pay them well to select with the utmost care and only after the most searching investigation the men whom they wish to handle their produce.

T. GREINER.

SALIENT FARM NOTES.

Weeds. A gentleman in Washington, D. C., writes me that it is his practice to cut weeds with the mower when they are in full bloom, cutting below the crown. This, he avers, kills them, and as they form a mulch on the surface, he asks whether plowing would be more beneficial to the land than such cutting.

One would have to get his cutter-bar rather low to cut some of our most pernicious weeds below the crown. I have yet to see a soil that is likely to be benefited to any extent by growing a crop of weeds of any sort, even when those weeds are cut in any stage of growth and allowed to rot on the surface or are turned under with the plow. Weeds take from the soil much of the elements of fertility. Some kinds draw largely on the stores of nitrogen, others on the phosphoric acid, and still others on the potash, and to simply return those weeds to the soil benefits it very little, while the possibility that a rush of other work or a spell of wet weather may prevent their being cut in time to prevent more or less seed-ripening and fouling the land is great. The root system of most of our weeds is located very near the surface, and this is why they impoverish the soil instead of enriching it. They remove the fertility from the upper crust and leave the subsoil untouched.

* * *

Clover. Clover is, without a doubt, the best fertilizing plant we have. It takes nitrogen from the air through its foliage and adds it to the soil. Its roots are strong and they run deep, opening and loosening any subsoil that is not constantly water-soaked. When the plant is killed by plowing, these deep-running roots die and decay at once, and the roots of the corn, or whatever crop may next be grown upon the land, run down these openings left in the subsoil by the decayed clover-roots and draw on the fertility they otherwise would be unable to reach.

* * *

I have found the lower feeding and pumping roots of the corn-plant following the openings left by the decayed clover-roots four and five feet down in the subsoil in a fairly dry season. This accounts for the fact that corn following clover will stand an extended drought without injury. The lower roots can easily descend to permanent moisture through the openings mentioned and supply the plant with water when the upper soil is a bed of dust. If Mr. Johnston can grow clover on his land he has everything he needs in the way of a fertilizer. Turning the full-grown clover-plant under adds to the humus in the soil and lightens it, while the strong, deep-running roots open and loosen the subsoil far better and deeper than can be done with any subsoil-plow.

Cow-peas. Our friend says he is sowing peas—cow-peas, I suppose he means—to be turned under as a fertilizer. Cow-peas stand next to clover in their mechanical effect on the soil, while they also take nitrogen from the air. They do not open up the deep subsoil so well as clover, but they leave the surface in very fine condition. When they do well, cow-peas are not only an excellent fertilizer, but also a grand crop to grow for pig-feed. Hogs will harvest them, so there is no necessity for any cutting or threshing, and the quality of pork they make is unexcelled. After the bogs have gathered the peas, the vines are turned under with the plow, and it will be found that they have fitted the soil just right—put it in first-class condition for a crop of wheat, oats, barley or corn.

* * *

Green Mulch. It is a good idea to keep the land covered with a green mulch of some sort during the hot weather of July and August, but it should be a crop of something that will add to rather than take from the fertility of the soil. Weeds should be the last thing used for such purpose. If land on which oats or wheat has been grown is required for winter wheat, it is best to plow it as soon as possible after harvest, running the plow shallow, for if the season should prove droughty the soil quickly becomes baked so hard that plowing is next to an impossibility. After it is plowed it should be run over with a disk or cutaway harrow after every rain to keep it covered with a mulch of finely pulverized earth. Such a mulch keeps the soil just beneath the surface damp and cool, and prevents the escape of nitrogen. This is shown in the fact that wheat sown on land thus treated starts quickly and makes a rapid growth, even in droughty autumns.

* * *

Shallow Tillage for Fall-sown Crops. I would suggest that farmers do less deep gouging and more surface work when preparing the land for an autumn-sown crop. By running the implements shallow the land can be gone over more rapidly and oftener without injury to the team. Except when turning under a heavy coat of manure for the purpose of lightening a heavy soil there is very little necessity for eight or ten inch plowing. It is far better to let a crop of clover do the deep subsoil work than to compel the teams to do it. Some of our most enterprising farmers are beginning to run a cutaway or disk barrow over the land immediately after the grain is cut, for the purpose of covering the soil with a mulch of fine, loose earth, and then plowing later. It has been found to work well, and further experimenting along this line is likely to prove interesting and profitable.

FRED GRUNDY.

DERRICK STACKER.

In the issue of August 1st I noticed an illustration and description of the derrick stacker. I used one for several years with great satisfaction. The economy of stacking with one is that a large and high stack can be made, and horse-strength used instead of human. The derrick need not be made stationary. The one I used was "white wood," forty feet long, with arm put on twelve feet from top end, and brace-rope from end to top of pole, as shown in the illustration.

Have three five-eighth-inch ropes about sixty feet long for guys from top of pole, and stakes three or four inches in diameter and three to four feet long driven firmly in the ground for anchors. Put a high load on your wagon, and drive to the stack; set the top end of the pole on the load, with fork, pulleys, etc. Dig a hole eight inches deep for the foot of the pole. Have two men at each of two guys, and hitch a team to the other guy and draw it up. Let the pole lean over the stack so that the arm and fork when at rest will hang over center.

A stack can be made sixteen by twenty-four feet and twenty-five feet high without the stackers moving much of the hay, by simply putting their forks against the horse-fork load and swinging it around.

The pole can be moved a few feet for another stack without taking down. It is in many ways superior to a stationary derrick. Do not drive stakes until the pole is raised.

W. H. OSBORNE.

THRESHING SORGHUM-SEED.

For threshing sorghum or cane seed an ordinary steam-power clover-huller, when properly adjusted, will do reasonably good work.—Rural New-Yorker.

Our Farm.

FARM THEORY AND PRACTICE.

PRODUCERS' ASSOCIATION.—Many producers are compelled to do some shipping for themselves, especially when the products are fruits and vegetables. The small shipper usually finds that freight or express charges eat up nearly all the profits of the crop. Where there are a number of small producers at a shipping-point, and all have a common market to which they ship, it pays them to organize themselves into an association, through which business with railroads, express companies and commission merchants may be transacted whenever necessity arises. Such an association makes reputation for its members. It can frequently obtain better shipping facilities and cheaper rates than a single shipper could secure. The interests of the producers at the one shipping-point are identical. They are in competition with growers of other sections of the country, and they want to place their goods into market at the least possible expense. A representative of such an association can often secure some concessions by an interview with the proper officials of transportation companies. A statement of the local situation, in the name of the association, and a frank personal request on the part of the representative often secure to a body of shippers some advantages that are worth much. It always works whenever there are competing lines, and often with a single line when it is led to see that the regular charges will limit production another year. Express companies will not reduce rates openly, but in many instances they are now carrying crates and baskets at a weight less than the actual weight. The letter-head of an association carries weight with commission men. The individual does his own shipping usually, but the fact that he is a member of an association of growers prompts commission merchants to give him better treatment than the individual often gets. Such a union of producers costs little, taking little time or money, and its services may not be required very often, yet it affords protection and secures results to its members that are worth much to each individual.

DIVIDING SHIPMENTS.—A common mistake of new shippers is that of dividing their shipments between two or more commission houses. It is a natural mistake to make. One wants to know which is getting the best prices or makes the returns most promptly and honestly. But such a division secures no test at all. Each house receives a lot so small that it cannot afford to pay attention to it while larger lots of regular shippers await their attention. The small and transient lot may find a good buyer one day and a poor one the next. All depends more or less upon chance. The regular shipper receives more consideration. His goods must be sold at fair prices if buyers can be found, as his patronage is large enough to be worth something to the house. The small shipper is at a disadvantage, but the wise one learns to make the most of his chances by sending all his products to a single firm, and impressing upon that firm the fact that he is a regular patron year after year. He makes his patronage worth all that he can to the house by dealing with it only, and in turn the house learns to push the sale of his goods and let the shipments of transients wait until he is cared for. Producers must realize that commission merchants are very human and are business men, and they will always take care of their best patrons first, and while they may try to treat unknown transients all right, they are going to push the sale of regular patrons' shipments first, in order to hold them.

A CHEAP TRICK.—High quotations always tempt the new shipper, and no one knows this fact better than the commission merchants. It costs no more to quote fruit at three dollars a crate than at two dollars. Transients rush their products to the house that quotes very high, and the house is on the safe side, while the shipper gets what is left. Reliable firms have to encounter such competition on the part of dishonest and fraudulent ones. An old and yet common scheme of rascals is to open a commission house, solicit consignments from large shipping-points, make returns for the first small shipments much larger than the market justifies, and thus draw the patronage away from old and reliable houses. Then when large consignments arrive the goods are sold

and the rascals hunt fresh pastures. The small shipper should try to find a fairly honest firm, and then stick close to it.

WHEN NOT TO SHIP.—Farmers are often inclined to ship their own products to a city market when they have few offers at home. As a rule, there is no worse time for a trial of shipping for one's self. Local shippers have learned by experience that when the market is full or when the local products are not up to the standard in quality they will probably lose money by buying and shipping almost regardless of the price they may pay. They have learned that goods cannot be bought cheaply enough for safe shipment upon a glutted market, and they know that an article of second-class quality cannot be sold for enough to pay expenses when fine goods are abundant. The farmer who wishes to begin shipping his own products should always choose the year in which he gets plenty of offers right at home from shippers. He may then find a bare market, and a transient shipper can get good returns from shipments to a bare market. In years of low prices commission merchants in our cities receive hundreds of car-loads of produce from farmers who are disgusted with the local prices, and having more goods from old shippers than they can dispose of to advantage, they must let these car-loads go at the buyers' own prices, often remitting to the farmers such small net proceeds that they are sure that they have been badly robbed. Stay out of a dull market unless a regular shipper, and never ship second-grade stuff to a city because local buyers do not want it. The city market is exactly the wrong place for it.

ABOUT GRADING.—Fruits and vegetables need not be graded the same every year. Smaller potatoes may be sold readily in August and September than later in the fall. Northern cities depend upon the stock south of them in early fall, and usually that is not so fine as the late northern stock. If one ships before time for storing, the market takes smaller tubers than it will for winter use. When there is only half a crop of any kind of vegetables or fruit one can safely ship a product that would not be wanted at all in a year of abundance. The rule is, however, that a city pays good prices for a choice article, while a local market is the safest for a poor article. Ship only such crops as are or can be made choice in quality, and accept whatever can be gotten at home for the second-class stuff. DAVID.

DO NOT KILL THEM.

CHAPTER I.

BENEFICIAL LADYBIRD-BEETLES.

After his strawberries have been ruined by the weevil, the garden-truck by cutworms, the wheat despoiled by the Hessian fly, the melon-patch fallen a prey to plant-lice, and the fruit crop has been a failure on account of the codling-moth, plum-cureulio and San Jose scale, it is scarcely surprising that the average farmer does as one of my acquaintance and "orders the hands to kill everything that crawls."

But such would be entirely too heroic a measure, and if strictly adhered to the remedy would be as bad as the disease, for it would not only mean useless labor, but would be the destruction of the most effective means whereby insect pests may be held in check. We pride ourselves—and justly—that with our Paris green and kerosene sprays and gas-tent most of the crops can be effectually protected. But were it not for those other insects which feed upon these injurious forms, what an enormous and in some instances almost futile task it would be.

Among these beneficial insects the little ladybird-beetles of the family Coccinellidae are entitled to first rank. Almost all the beetles and larvae feed upon plant-lice and scale-insects. Of such value are those feeding upon scale-insects that not many years ago the United States entomologist imported a large number of Australian species, into California, that they might prey upon the San Jose and other scale-insects, though these were not as suc-

cessful as anticipated, except the one which destroyed the cottony cushion-scale, only one of the imported species being now found there.

Of those feeding upon plant-lice, one of the most common is the nine-spotted ladybird (*Coccinella novem-notata*). This beetle is about one fourth of an inch long, with black head and body. The wing-covers are orange-



Fig. 3.
The Convergent Ladybird (*Hippodamia convergens*). (After Riley.)

yellow marked by nine black spots—four on each side and one on the central suture. The larva is nearly twice as long, almost black; marked with bluish and orange spots; has long legs, which carry it around quite rapidly, and altogether it is of quite a different appearance from the adult beetle. The beetles hibernate during the winter and come forth in the spring and lay their eggs wherever the young will be able to find food when they hatch. When the larva has satisfied its ravenous appetite and becomes full-grown it fastens itself to the food-plant—seemingly by its tail, if such a term might be allowed—transforms to the pupa, and in a week or ten days the adult

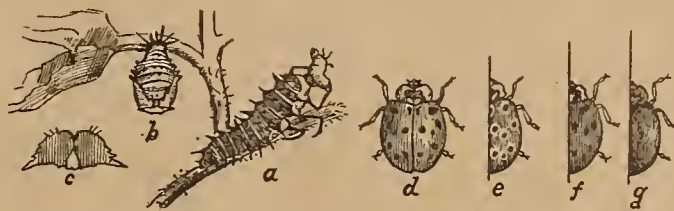


Fig. 4.
The Fifteen-spotted Ladybird—*a*, larva eating plant-lice; *b*, pupa; *d*, *e*, *f* and *g*, beetle and variations in markings. (After Riley.)

beetle emerges from the pupal skin. This life cycle is repeated several times during the summer season, before the fall brood turns into winter quarters.

Another very common form among lice on garden-truck is the little *Adalia bipunctata*, or two-spotted ladybird. It is slightly smaller than the preceding, and with only one black spot on each wing-cover.

Several of the species in the genus *Hippodamia* are very useful, and among them the convergent ladybird (*Hippodamia convergens*) is one of the best known. Its name is received from two white dashes on the black thorax, which converge posteriorly.

The thorax has also a white margin, and there are thirteen black dots on its orange wing-covers. These larvae and beetles are very common among the plant-lice on melon-vines, and are an important factor in their extermination. They have also been noted for eating the black peach-aphis and many other plant-lice.

A form which is often very abundant among lice on corn is *Megilla maculata*. The head, thorax and wing-covers are a dark pink, with two black spots on the thorax and ten on the wing-covers. The writer frequently found such numbers of these little fellows huddled together under the rubbish at the base of some tree in a last year's corn-field that they might be taken up by the handful without difficulty. Many other species feed upon plant-lice, but the above are the most common, and all bear a close



Fig. 5.
Megilla maculata. (After Riley.)



Fig. 6.
The Twice-stabbed Ladybird (*Chilocorus bivultus*)—*a*, beetle; *b*, larva. (After Riley.)

resemblance to one another, being generally orange or red, with black spots, and of a characteristic round or oval form, flattened below, so that the legs may be drawn in under the wing-covers.

These ladybirds feeding upon scales are much smaller and black, though sometimes spotted with red or orange.

As far as known, there is no way in which these useful allies may be encouraged or increased in numbers, but it is trusted that the above may give such a brief view of their habits that fewer may be killed through ignorance as regards their true worth.

E. DWIGHT SANDERSON.

DODDER.

It is not an uncommon thing to find patches of clover, alfalfa, flax, onions and even raspberries covered with a mass of yellow, white, pink or orange thread-like stems

which seem to be pressing to the ground the plants upon which they rest. At intervals upon these stems may be seen pink, white or yellow flowers, but what is most striking is the total absence of anything like the leaves of other plants. The plants do not require leaves because dodder, the common name of the group, is parasitic, taking all its nourishment from the prepared sap of the plants to which it attaches itself, hence its leaves are reduced to mere scales.

The dodders have a peculiar way of growing. When the little seedling appears above ground it is seen to be nothing more than a naked stem, even the seed-leaves which are common to most plants being absent. This stem bends to one side, and as it grows longer it swings around in various directions until it strikes something. To this it attaches itself by coiling around it, in some places loosely, in others tightly. When once attached to another plant the little stem dies and the dodder then has no connection with the ground, except through the plant that supports it. But this connection is not its own, because it sends out only very short roots, too short to reach the earth through the tissues of its "host." If the little stem fails to touch a plant, or if it strikes something such as a dead stem, a glass rod or other inanimate object, it will live only so long as the food stored in the seeds lasts. At the places where it tightly embraces the growing plant it sends out suckers, which push their way into the "host" and rob it of its sap in the same way that ordinary roots take up liquids from the soil in which they grow.

This sucking of the vital fluid prevents the normal development of the plant upon which the dodder fixes itself, and in the majority of cases the unfortunate plant attacked is killed.

Soon after its establishment upon its victim the dodder, as if in triumph, boldly produces flowers and seeds and commences to branch, to attack itself in other places upon the same plant and to other plants. Thus it progresses, dying behind as its "hosts" are killed or rendered helpless, and attacking new plants in an ever-widening circle. Some of the species are almost omnivorous, a single plant having been known to draw the sap from no less than eight kinds of plants—grass, aster, daisy, choudrilla, shepherd's-purse, wild onion and two species of clover.

If taken in time, the destruction of this pest is comparatively simple. As soon as an infested spot is discovered, it should be mowed up in the center of the patch and burned, some kerosene being thrown upon it to insure its consumption. The cutting should be done on a hot, dry day, since if the air is humid the vines will not lose their vitality quickly, and any pieces that may reach host plants are likely to reproduce themselves and thus spread the trouble. New dodder-plants may spring up in the area cleared, for which reason it will be well to make an examination about a week after the fire. If new plants appear, hoeing will be the best way to rid the place of them.

Hoeing and spading, if properly done, are always effective ways of destroying this plant. It is necessary in this method to prevent all growth upon the infested area for a period of at least three weeks. Two inches is as deep as it is advisable to stir the soil, since deep spading is likely to bury the seed, where it may retain its vitality for even five years. Hoeing is specially effective if the vines have already begun to produce seed, the cultivation tending to induce germination.

Since dodder is most frequently introduced in impure clover and alfalfa seed, it is essential that these seeds be known to have come from a non-infested field. Careful examination of the seed should always be made, and a guarantee by the grower that the seed is from a dodder-free field always insisted upon. Next to impure seed baled hay is the most important source of infection. Where used it should be carefully examined, and if dodder be present the refuse from the stalls should be destroyed. It will always be well to keep a suspicious eye upon the field fertilized with manure from stock fed upon baled hay.

The above remarks apply only to the dodders affecting cultivated plants. There are other species that abound in low places and that are thus of practically no economic importance. They may therefore be allowed to spread and kill without molestation.

M. G. KAINS.



Fig. 2.
The Two-spotted Ladybird (*Adalia bipunctata*). (Original.)

Our Farm.

NOTES FROM GARDEN, FIELD AND MARKET.

SELLING FRUITS.—For a couple of weeks back, while we were marketing apples, pears and other things, I have been a frequent visitor at the Buffalo markets and commission stores. I think a little time spent there is time well spent, for one can learn a good many things there that one would not dream of at home. I only wish that all fruit-producers and fruit-shippers would visit the markets more generally and frequently. If they are at all observing they will see for themselves that the fruit-growers' worst enemy is the fruit-grower himself. See the great quantity of stuff that is utterly unfit for market. See, just at this time, the lot of miserable peaches—peaches in small baskets, peaches in large baskets, peaches in boxes and peaches in crates, that crowd the sidewalks in front of the commission stores—that early stuff not larger than a hickory-nut (and gnarly and imperfect otherwise in the bottom of the basket besides)—the clings not fit to eat and not even good enough for hogs. These early clings are reliable annual and heavy bearers, and the markets are glutted with them year after year. People get a taste of them at the very beginning of the peach season, and it makes them sick of peaches right away. Such stuff discourages the buyer. It demoralizes the whole fruit market, and I verily believe that the actual loss in cash to the fruit-grower on that account amounts to millions of dollars a year. In fact, it threatens the very foundation of the business; namely, the willingness of the American people to use fresh fruits freely, and to pay a fair price for a good article. The remedy which I would purpose, and which I feel sure would prove very effective in bettering the whole of our fruit market, involves first of all the cutting down of all our first early peaches. Even if they bring a moderate revenue to individual fruit-growers they are still a nuisance and a danger to the whole fruit-growing industry. The sooner the Early Rivers, Early Beatrice and other peaches (so-called) of that class are wiped out of existence, at least for general market purposes, the better for the entire fruit trade.

POOR FRUITS.—Besides these miserable apologies for peaches one can also find plenty of other poor fruits in our markets, such as little bits of gnarly, wormy, scabby apples, and the meanest kind of pears, etc. There is any amount of stuff of this kind that is unfit even for cider-making. The professional fruit-grower (to his credit be it said) is not usually the one who brings this stuff to market and bears the responsibility for this demoralized condition of the market. More often it is the market-gardener who happens to have a few trees of various fruits on his place, seldom takes the best care of them, and only markets the poorly grown stuff because he happens to have it and thinks he can get some money for it, even if he has to sell at a low figure, and realizes only a small aggregate amount. But he is doing a great deal of harm to his brother, the fruit-grower. There would be more clean cash—and certainly a vast deal more net profits for the soil-tiller generally—if poor trash were left ungathered or fed out on the place at once. With the trash removed from our markets there would seldom be a plethora of anything at any time, and high prices would rule.

IMMATURE FRUIT.—Sometimes it may be permissible to throw immature fruit into the general market; but the man who does that must use discretion. I marketed Oldenberg apples this year when little more than half grown; but in this stage of development they made excellent sauce, and people wanted them, even at a very good price. In fact, the sauce seems much more palatable than that made of the same kind of apples when approaching maturity. I have picked my Clapps' Favorite pears and some of my Bartlett's quite green, and those put first on the market brought the biggest prices. But pears have to be harvested before they get ripe on the trees, and they are all the better for it. Clapps' are worthless if left on the tree to ripen. But the case is altogether different with grapes. For years some growers have made a business of putting immature lves which color up early, but ripen later, on the markets a month or two before the proper season of this variety, and they have hurt themselves and their brethren in the grape-growing business quite badly. A grape picked when hard and sour will never

be anything else but a hard and sour grape. Those immature lves look like grapes and deceive people now and then, by their looks; but people have enough on one taste of them and will not buy a second basket. It is sure to sicken people of grapes, as the early peaches sicken them of peaches, so that they fear the second trial, even of the good later grapes and peaches.

T. GREINER.

A SIMPLE FORCING-HOUSE FOR WINTER VEGETABLES.

The growing of vegetables under glass in winter has become a great industry in the vicinity of all our northern cities, and the output of these houses finds a ready sale at remunerative prices.

As a rule, this department of agriculture has been left to the professional trucker, the farmer contenting himself with working his ground during the spring and summer and allowing it to lie idle during the long winter months, when fresh vegetables bring the best prices. One reason for this neglected opportunity is undoubtedly the expensiveness of the strictly up-to-date forcing-house.

But for a large class of semi-hardy vegetables, which find a ready market at fair prices, a simple and comparatively inexpensive house will answer every purpose and will grow successfully lettuce, radishes, spinach, parsley, mint, violets and pansies, for all of which there is a large and growing winter demand in all our cities and larger towns.

The house planned and built by the writer is about the simplest that can be devised, being nothing more than a cold-frame so modified as to be easy of access in all weather and provided with a small entrance-house.

The house proper is ninety feet long and about twelve feet wide, with side walls eight inches high. The entrance-house is twelve feet by eight feet, with side walls three feet high above the ground-level. It is evident that these dimensions would give no head room. So the entire floor of the entrance-house is excavated to a depth of three feet, and a walk two feet wide and three feet deep is dug the whole length of the glass house. This leaves surface beds five feet wide on each side of the walk. The top soil may be thrown on these beds and the subsoil used for banking up the sides of the house. The digging should be done before the carpentry work is begun. In my own house the side walls of the forcing-house were simply and cheaply constructed by laying two tiers of old railroad ties on each side the proper distance apart, one tier being laid above the other to secure the proper height. The ridge-pole of the forcing-house is made of two-by-three-inch stuff, placed six feet above the middle of the sunken path, and held in place by rafters of the same stuff. For reasons that will hereafter appear, the rafters on the north side, as the house runs east and west, are spaced three feet apart from center to center. On the south side, where the sashes are placed, they may be the width of the frames apart or placed at the joinings of every third frame.

The sides, end and roof of the entrance-house are framed in two-by-three-inch stuff spaced three feet apart from centers, and they, as well as the north side and east end of the forcing-house, are covered with red rope Neponset paper, put on with battens and well painted with some good roofing paint. This makes a warm, serviceable and cheap covering, but boards may be used, if preferred.

The sashes are simply laid in place on the south side, one end resting on the upper surface of the ties and the other on the ridge-pole. Most of the sashes are held in place by a nail or two driven through the upper styles into the ridge, but every third sash is left movable for ventilating the house. A row of ties is laid along each side of the sunken walk to prevent the dirt falling from the beds, which should have been prepared for the seeds in advance of the

carpentry work by mixing in three inches of well-rotted stable manure.

Even in so simple a house as this any of the vegetables or violets and pansies can be successfully grown in winter with little or no artificial heat. If no heat is used, shutters must be made to protect the sashes during cold nights, since the temperature of the house must be kept between forty-five and sixty degrees, the former being the right temperature. Two or three small oil-heaters will obviate the need of using shutters.

In my own house radishes, lettuce and violets are the staple crops, and the requisites to success are cleanliness, plenty of fresh air and a moderate temperature. In the late spring the forcing-house is stripped and the beds cultivated, this open-air cultivation making it possible to use the soil in the beds for two seasons.

The three illustrations will make the description plain. Fig. 1 shows the ground plan of the entrance-house and a section of the forcing-house. A A are the beds, B the sunken path, and C the entrance-house floor excavated to a level with B. There is a door at E and another at F. Fig. 2 is an end view. D E F is the roof of forcing-house, and G H I the entrance of forcing-house, two feet four inches above it. The side elevation is shown in Fig. 3. A is the entrance-house, B a section of forcing-house, C C ground-level, and D D level of sunken path and entrance-house floor.

If the ground is likely to crumble, the side of the entrance-house pit and those of the walk should be boarded up.

In such a house as this work should be begun the middle of September, before the sashes are put on, by sowing radish or lettuce seed or putting the violet or pansy roots in the beds. Three or four crops of radishes may be grown, and then the beds planted with cucumbers or tomatoes for an extra early crop to catch the good prices usually obtained for early local crops of these vegetables.

A small house of this description will furnish quite a list of fresh vegetables for the family table and with no great expenditure of money or labor.

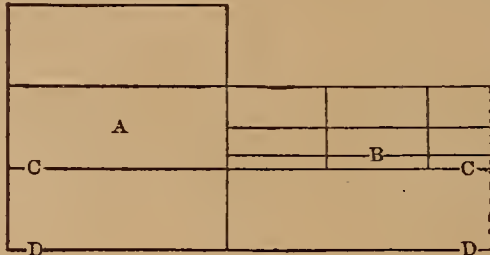


FIG. 3.

In conclusion allow me to say that I shall be pleased to answer to the best of my ability any questions not solved by this communication.

W. H. BURBANK.

ORCHARD AND SMALL FRUITS.

CONDUCTED BY SAMUEL B. GREEN.

INQUIRIES ANSWERED.

Best Stock for the Peach.—E. O. F., Philo, Ohio. The peach does rather better on plum roots than on peach when grown in heavy soil, but in light soil and for general use I much prefer to have the peach worked on peach.

Woolly Root-aphis.—E. W., Tennessee City, Tenn. Judging from your description I should think your trees were infected with the woolly root-aphis, which is quite common in some sections and is generally accompanied with a loss of vitality on the part of the tree; but in order to determine with certainty, please send specimens of infected root and bark, with insects.

Oyster-shell Bark-house.—J. W., Homer, Minn. The muscle-shaped scales on the Transcendant crabs are what is known as the oyster-shell bark-house, and it occurs on pears as well as apples. It has sometimes caused much injury to apple-orchards. These scales are about one fourth inch long when full grown, and shaped much like an oyster-shell. The best remedy is to spray the trees with clear kerosene on a cool, bright day in winter, when the oil will evaporate quickly. Nothing much can be done while the leaves are on the trees.

Bird-cherry.—G. T., Cheyogau, Mich. The specimens enclosed are from the common bird-cherry (*Prunus pensylvanicum*). This tree is one of the first to come in on burned-over timber-land at the North, the seed being distributed by birds and growing very readily. It is of no special value for wood, being generally short-lived and seldom of large size. The fruit is sometimes used for flavoring liquors and for a sort of wine,

but it is doubtful if you could use them to any profit.

Rotting of Fruit.—Ellis, Sewickly, Pa. The rotting of the plum, cherry and peach is generally caused by a fungus known as *Monilia fructigena*. This fungus lives over winter in the dried fruit that hangs on the trees or lies on the ground, and in spring produces spores that infect the growing fruit. The remedy is Bordeaux mixture, and it is very satisfactory. It should be applied early in the spring as soon as the buds commence to swell, again when the flowers have fallen, and several times thereafter at intervals of about two weeks. As a precaution against infection, the dried fruit may be picked and burned, but if it is kept covered with Bordeaux mixture in the spring it is harmless.

Downy Mildew and Black-rot.—C. E. A., Palestine, Texas, writes: "I have quite a collection of grape-vines, and am at a loss to know what causes some of the vines to drop their fruit before ripening, also why, in some cases, the fruit dries up when about two thirds ripe. I have one vine, a Delaware, that has matured only a few bunches this year, although the vine was very well filled. I hardly think it overbore, as it only had about fifty or sixty clusters on a five-year-old vine. The early part of the summer was very wet, and perhaps that has something to do with the trouble. The vines are planted on gravelly soil with clay subsoil. I would like to know what the vines need. The leaves of some of the vines curl up, turn yellow and drop off."

REPLY:—You have described a very clear case of what is known as downy mildew perhaps associated with black-rot of the grape. The remedy is spraying with Bordeaux mixture early in the spring before the leaves unfold, and several times thereafter until the fruit is nearly full size, after which the carbonate of copper solution should be used once or twice, according to the weather. If dry, one application of the latter will probably be enough; if wet, at least two applications should be made. In many vineyards both in the North and South sprayings are more necessary for a crop than all other cultivation, for grapes cannot be grown without it.

Pear and Plum Queries.—M. E. P., Bloomery, W. Va. 1. The Angouleme is a large pear of most excellent quality when well grown, but of very inferior quality when small. Ripens in midautumn at the North. Tree generally does best on quince root; that is, as a dwarf. A general favorite over a large territory, including West Virginia. 2. Experiments seem to show it to be a self-pollinizer, or, in other words, self-fertile. 3. I do not think the numerous black spots on the leaves of your pear-trees are caused by "fire-blight," but think it what is known as scab or leaf spots. 4. It may not seriously affect the tree or fruit, but all diseases tend to weaken the trees they live on. 5. It may spread to other trees, but this will depend on their susceptibility to disease. It should be understood more generally that some varieties are much more liable than others to become injured, and are better adapted to one climate than to another. For instance, in parts of New England the Flemish Beauty is so liable to scab of fruit and foliage as to be generally worthless, while the Bartlett is very vigorous, and yet the Flemish Beauty is much harder than the Bartlett in the northern part of the Mississippi valley. 6. Cannot tell the name of the fruit from your description. You must send a sample with a few leaves. 7. For two pears that can be grown as dwarfs that ripen in succession and are self-fertile I think well of Angouleme and Anjou. 8. The Keffler pear is rather large, oval, contracted toward the stem and crown; rich yellow tinged with red in color; ripens in autumn. Tree an erect grower. 9. Prince's Imperial Gage is usually a freestone, but sometimes adheres. 10. Both Prince's Imperial Gage and Yellow Gage are good plums. Perhaps the Imperial Gage is the most reliable. 11. The Washington plum is one of the most reliable market and garden plums. 12. I think the Shropshire Damson more reliable than the French Damson, but am not much acquainted with the latter.

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Our Farm.

DAIRY-FARM LEAKS.

ONE of the most serious "leaks" found on the dairy-farm is the cross-bred, or scrub, bull, and it is a surprise to one in this day of breed improvement in other animals to find so many of these worthless sires at the heads of our farm dairies. Especially is this the case among the cheese dairies and those which sell milk in our villages or ship it to the cities. As a rule, but little of this milk is hought or sold on the basis of its fat content, so that neither the producer nor consumer is interested in the production of rich milk. In those sections where butter is the main product one will find more thoroughbred sires. For instance, in the town Bovina, Delaware county, New York, no cheese is made, and six years ago there was not a creamery in the town, although there were one hundred and twenty-five farmers who milked nearly or quite 2,500 cows, all, with the exception of one herd of natives and one or two of Guernseys, being either full-blood or grade Jerseys. With but very few exceptions, each herd was headed by a full-blood sire, and all one need do, if he desired to have a controversy, was to mention the mongrel sire or the general-purpose cow. Those Scotchmen will listen to no scrub-bull or general-purpose heresy in dairying, when it comes to sires. They keep dairy-cows, and know that in order to keep their dairies up to the highest notch of butter-production they must use full-blood sires. In no other way can their dairies be kept from degenerating.

The small butter dairies, both private and those which are patrons of creameries in central and western New York, are, as a rule, headed by thoroughbred sires, and very many of those herds average nearly or quite three hundred pounds of butter to the cow. One will find these herds, mostly Jerseys or their grades, scattered all through the fruit belt of western and northwestern and the central portions of the state, the dairy interest therein being of quite recent introduction. These farmers have learned that to produce butter they must have butter-producing cows; and if they are to have such cows, and are to keep their dairies supplied with them, they must keep and use sires from the best butter strains of dairy cattle. They have put small dairies on their farms for the purpose of supplying, in part, the local demand for fine butter and to furnish fertility for their orchards, having learned that they cannot depend wholly on commercial fertilizers. There must be humus in the soil, which these commercial manures do not supply; so they have to resort to barn manure and clover.

There is also quite a respectable number of these fruit-growing and butter-producing dairymen in the Hudson river valley, especially in Columbia county, where there are some fine herds of Jerseys and Guernseys. Dutchess county, the once famous home of the Shorthorn cattle in this state, also has some fine herds of these breeds, among them that of ex-Governor Morton, at Rhinecliffs, which numbers nearly two hundred head of all ages. Of course, butter is the product sought by these men, so they are all sticklers for prepotency, which means full-blood sires, if not dams also. As a rule, however, high-grade dams predominate, except, perhaps, in the professional breeders' herds, and quite often we find these grade cows giving very nearly as good returns of butter as do many of the thoroughbreds. By selecting the best of these grade cows, breeding them to full-blood sires, and then selecting the best of the heifer calves, the butter-producing status of the dairies is easily kept up and oftentimes improved, so that this capacity is constantly increasing.

How different the management of the cheese or milk-producing dairymen where the Babcock test is not the umpire. As a rule, his sole aim is quantity of milk. He pools it at a cheese-factory, ships it to the city or sells it to a peddler who pays no more for five-per-cent than he does for three-per-cent milk, therefore such a dairyman takes no stock in full-blood sires or dams, nor makes any effort toward improvement by the introduction of better blood or by giving better foods or care. His cows are of all colors, sizes, forms, crosses and ages. Some of them give a small flow of good milk, others a large one of thin milk, and others a medium flow of medium milk, while all of them drop their calves in the spring and are in the dry-cow hospital from

December 1st, or earlier, to March 1st, or later. During this "dry" interval they manage to consume all the fodder their owner stored up for them, in return for which he has had their society, besides saving a part of their manure product.

When the time comes to "turn out to grass"—many times before, if the fodder supply is short—these cows go into the pasture, and with them the yearling scrub bull saved from the last spring's calves, and which is to do the service for the herd. When the season is over—say September, 1st—he is allowed to run in the pasture till fat enough for beef, when some local butcher or dealer gets him, or he is sold to a shipper at about three dollars a hundred, live weight. Meanwhile another one from the spring herd of calves is coming on, to take his place and share his inglorious taking off the next autumn. Should the supply of surplus scrub cows chance to be "short" in the spring, and a necessity exists for enlarging the dairy, or, rather, supplying the places of some of the old staggers that must of necessity go, a few of the "likeliest" of the heifer calves are saved, which are fed sour whey and allowed to run in the shadeless pasture and fight flies all summer. At two years of age they take their places as cows in the old rigid stanchions among their ancestors of half a dozen generations. The remainder of the spring herd of calves are allowed to suckle cows until they are about four weeks old, when they are sold to dealers, who ship them alive to New York, the prices varying from three and one half cents to six cents a pound, live weight.

This system of breeding and dairy management is kept up year after year with no signs of abatement, and is likely to be continued ad infinitum. There is no improvement made or sought by a majority of these dairymen. If one of them, through the influence of a farmer's institute which he has attended, or that of a good agricultural paper which he takes and reads, makes an effort toward improvement, by weighing and testing the milk of each of his cows, with the view of ascertaining which are paying for their board, and, therefore, the most valuable to breed from, and by introducing into his herd a thoroughbred sire from some good milking strain—one with a pedigree and record behind it—he is opposed, if not ridiculed, by some of his neighbors, who say it does not pay to use full-blood sires, and that grade sires or dams are just as good—better, for that matter, because they are hardier (?) than thoroughbreds; and if this man perseveres and, by better breeding and feeding, builds up a herd of 5,000 or 6,000 pounds of milk each, testing four per cent or more of butter fat, his neighbors will declare his statements false or else say that extra feed did it, and that the cost of the extra feed more than overbalances the extra yield and quality of milk.

We have in this town three hundred and fifty dairymen, who keep and milk an average of fifteen cows each. This milk all goes into ten cheese-factories in the town and half a dozen or more in three adjoining towns. Besides these herds there are at least four hundred cows owned by people who keep one or more for the purpose of making a little butter or for supplying the family and a neighbor or two with milk, making, in all, nearly six thousand cows in the town. Last week a close canvass of a portion of the town and a careful inquiry among the best informed dairymen elsewhere showed less than thirty thoroughbred sires at the heads of these three hundred herds; all the others are scrubs. In a pasture belonging to a farmer who owns a dozen farms and keeps one hundred and seventy-five Red Poll and Ayrshire and Durham cross-bred cows I counted six of these bulls being fitted up for the butcher. They were not worth, for dairy-breeding purposes, a dollar each. In another pasture across the road were six bull calves, the progeny of these bulls, which are to head the herds next June. This farmer is a great advocate of blood when it comes to trotting-horses, having paid \$2,000 for a Kentucky stallion to breed to some of his grade mares; he is also a firm believer in blood when he makes selections for his pig-styes; but when you mention blood for the dairy-cow or his henry he makes no sign other than one of opposition. And yet we have had eight farm institutes in the town during so many years, at each of which this suicidal method of breeding the dairy-cow was strongly denounced by the best speakers obtainable by the director of institutes. These dairymen also have the experiences and example of those few who keep full-blood sires, but it is of no more avail than have been the institutes.

The question, "How shall the uninformed know what points to be governed by in selecting the dairy-cow or sire?" is often asked. Following are some of the points to be observed, as laid down by Mr. Henry Van Dreser, one of New York's expert judges of cattle at fairs, and a member of the State Farmers' Institute force:

"The sire should have a masculine appearance, as if monarch of all he saw, but his look should not indicate a vicious disposition. He should be heavier in the head than is the cow, and should stand low on the ground; his barrel should be well sprung, and the secretions of his skin oily and abundant; it should also be soft, loose and mellow to the touch. He should have four well-placed rudimentary teats, with double-extension milk veins. The neck should be neatly joined to the shoulders; he should be well crested, clean in the throat and free from dewlap, and his vertebrae should indicate an open organization.

"Observe the following when selecting a cow: Her head should be symmetrical; horns should curve inward and downward, and she should be broad between the eyes, which should be large, full, bright and expressive. Face slightly dishing and the facial veins prominent, the bridge of the nose flat, the nostrils large, and the lips heavy. The body should be wedge-shaped and the neck thin, and she should stand lower on the ground in front than rear; she should be deep through the heart, with ribs well sprung, enlarging toward the hips. She should be broad across the hips and broader across the hocks, for the purpose of giving room for the udder, so that it will not swing when the cow is walking. The tail should be large at the setting, tapering to below the gambrel, and terminating in a long, heavy switch near the ground. The udder should be capacious, well set, both in front and rear, and its quarters well balanced, with the teats well set and the udder veins prominent; while the larger, longer and more sinuous the milk veins, and the greater the number of milk wells at the ends of those veins, the better the cow. The skin should be loose, soft and mellow, and the secretions oily and abundant. The ears should be of medium size, with their insides well supplied with yellow dandruff—an indication of butter-fat producing power. The escutcheon should be of the highest development and covered with yellow dandruff, and the hair should be abundant and of a soft, velvety touch. The dairy-cow should have what is termed an open organization; the beef-cow a closed one. Her vertebrae should be open, and she should be open in the shoulder and thigh-pits. The udder cord should be large, and also the umbilical cord; the latter denoting, when largely developed, great constitutional vigor—a vital point always to be considered when selecting a dairy-cow."

C. W. JENNINGS.

EXTRACTS FROM CORRESPONDENCE.

FROM IOWA.—In south-central Iowa oats and timothy are the chief crops. Wheat, however, is steadily on the increase, and the rye crop is far from being insignificant. Oats did not yield a full crop, and from many fields the grain is light. The wheat was excellent in yield and quality. The same may be said of rye. It is, however, a practice bereabouts to pasture rye quite severely. This cuts short the yield, but not the quality. The practice grows out of the price generally paid for it, as the grain itself would scarcely pay an ordinary rent. Timothy was an average crop. The seed is good, and brings from eighty cents to one dollar a bushel. The threshed hay is quite an item, stock doing well on it; in fact, many farmers thresh the whole of their meadows, feeding that sort of hay altogether. Owing to the protracted dry weather the corn crop will be materially cut short. There are a great many stalks without sign of an ear. Late corn is firing a good deal and will make fodder full of nubbins. The pastures look as dry as a board. Water is failing and many families are hauling it for house use. It seems to me that every farmer should have a capacious pond, deep and wide. The entire dam should be scooped from the bottom of the pond. Such a dam, with a pipe and tank, would be a wonderful blessing. If large enough, it would not only furnish water for the stock, but would raise enough fish to keep the family going the year round. Fresh fish are a delightful change when the table has had nothing upon it for days but bacon and potatoes. It would astonish many farmers to know how often, and how much, cattle will drink during the day if they only have free access to a well-supplied tank. Many of our large cattle-raisers are building windmills, with force-pumps, and forcing the water to the barn, house, and wherever it is needed. To pump water by hand for thirty or fifty head of cattle is no small daily chore; nor is it a light affair to drive them daily to water. The time and

labor saved by windmill, force-pump and pipes would soon return the cost. Cattle continue to command a good price. Men are now riding around the country buying up all the calves they possibly can. There seem to be creameries everywhere, and milk-wagons are passing continually. Calves suffer as one consequence. Creamery skin-milk isn't full of growth-contributing qualities. Ewe-necked and pot-bellied calves are quite common. For my own part my calves suck their mothers until time to wean them. I commence to feed oats and corn to them as soon as they will eat. Nor does it take them long to learn. I notice that when creamery calves will bring but ten dollars, mine and their like will bring fifteen, and when they are offered fifteen I can get twenty. However, I don't believe in selling calves. I prefer to buy. I haven't sold a calf for a good while. Nor is it a good plan to sell corn. I have sold more or less corn every year, but it was to neighbors, whom I didn't care to refuse an accommodation. My aim is to keep a year's feed ahead. I was caught once in a drought without corn, and I will never forget it. It ran up to eighty cents and one dollar a bushel. The last drought I had a thousand bushels of my own raising to tide me over. "A burned child dreads the fire." The promise of the spring, with reference to fruit, was not fulfilled. Most of the plums were ruined by the curculio. Of a score of varieties in my grounds which were full of young plums but three of them missed the ravages of the pest. These were the Wild Goose, Marianna and the Sucker State. The curculio let these three varieties alone. Why, I cannot tell, and will not guess. The last-named plum is very late in ripening. Apples are forty cents a bushel. They are not plentiful at that. Winter varieties are doing but little good. There will not be sufficient to supply the home demand. Peaches have done well. The leaf-curl damaged a large number of trees, but enough remain to enable all to buy at a dollar a bushel. My Early Crawford I was compelled to prop up. Trees could hardly bear more. It is a grand thing to have plenty of fruit. It is healthy, and if one has much, it contributes to wealth. Men wonder why their trees don't bear better. The reason is a simple one; they are hungry, and want feeding. I give my orchards loads and loads of manure every year, and they bear heavily. E. B. H. Knowlton, Iowa.

FROM MISSOURI.—Camden county is a productive, undeveloped, timbered county. Tame grasses grow in abundance. All kinds of fruit do well. The timber is fine, the water is good, and the range for stock is great. Land is very cheap, ranging from \$1.50 to \$5 an acre. All who desire to buy cheap land and get a good home should come and see this country. I bought 160 acres for \$600. Since I have five hundred apple and other kinds of fruit trees started it is worth \$2,000. Others can do as well. J. F. Mack's Creek, Mo.

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Our Farm.

ORCHARD NOTES.

THE chief need for our orchards is elimination of inferior sorts of fruit. Downing did us great service in rigid classification of all the fruits that were liable to be for sale in the catalogue. But now we are overruled with a vast number of new things, and are compelled to plant as best we can, and then dig out such as will not thrive with us.

For instance, in this section, central New York, we cannot grow perfectly such standard varieties of apples as Yellow Belleflower, Tompkins' County King, Golden Pippin, Jonathan and Newtown Pippin, Golden Pippin, if grown at all, must be grafted high on older trees. The trouble is that the wood winter-kills, and if standing on its own trunk we are liable to lose a superb orchard in a single winter. This subject of high grafting is worth more consideration. Some of our best fruits, if root-grafted, will perish with us. What I said of Golden Pippin is equally true of the Spitzenburg. That superb variety will thrive as well as ever if you will graft it high on home-grown seedlings.

We have a new pest, or rather an old one, becoming quite more general, that we must know more about. I refer to the tripetafly. This creature lays its eggs all summer on the surface of the apple, and cannot be reached by either copper mixtures or arsenites. In fact, we have not yet discovered any effective remedy. I can add this item that will be of some use: The tripetafly works most readily in the shade and where bushes are grown under the tree. Trees standing in berry-gardens and vineyards have the crop ruined almost completely. I recommend higher trimming and growing in the open. Perhaps our trees will hereafter be planted of necessity further apart.

A curious series of developments have taken place in our orchards during the spring and summer of '98. The continued rains prevented the pollenizing of early apples, but on the contrary gave us only early cherries. The man who wishes to be a successful orchardist must keep a few hives of bees. With a dozen hives to twenty acres of garden and orchard I believe he will never meet with an entire loss of fruit.

An excellent apple for the whole apple belt is a seedling which started hereabouts in an orchard planted by the missionary to the Iroquois Indians, in 1791. The original tree was standing until 1895, over one hundred and three years old. The apple much resembles the Yellow Belleflower in appearance, but is utterly useless until as late in the winter as February or March. It is difficult to satisfy customers with this fruit, because they are liable to eat it or cook it early in the winter. Its peculiarity is keeping admirably until May and June.

Three of the best fall apples that we can now plant are Shawassie Beauty, Princess Louise and President. The last of these is the most delicious apple I have ever eaten in October or November. Why it is seldom planted I do not understand. It is a good grower, and only a fair cropper. The Shawassie is the most persistent bearer of the most beautiful apples I have ever seen. It has the peculiarity of ripening in succession, from the middle of October to the middle of November. Princess Louise is a seedling of the Snow apple, and I think an improvement on that fine fruit. Those who want thoroughly good apples for the table and for cooking must not go without these three varieties.

A really good winter apple is seldom found. Certainly the Talman cannot be ranked as a tolerable table fruit. But if you will procure a tree of the old-fashioned Belle Bonne, an apple common in Connecticut one hundred years ago, you will get a really toothsome, rich, long-keeping sweet apple. The tree is very shapely, and regularly bears fine crops. The apple is large and nearly round, with golden flesh and a yellow skin slightly russety. Like all sweet apples, and most sour ones, it should be grown where the sun can reach the fruit.

E. P. POWELL.

THE POULTRY YARD.

Conducted by P. H. Jacobs, Hammonton, New Jersey.

HOW TO SECURE HARDY CHICKS.

A hen can be kept in service for three or more years; she will only have to be raised once, and loses no time after the first year. However, leaving that view of the matter for future consideration, it may be well affirmed that the continued sacrifice of hens and replacing them with pullets is doing much harm to all flocks which are composed of pullets, as the use of pullets for breeding purposes is to use immature mothers. It is well known that vigorous chicks are secured from hens that are two years old and over more generally than from pullets, especially when the hens are mated with cockerels not under eighteen months old. When eggs are used from pullets year after year it can only result in deterioration of the flock, not because of lack of new blood, but of vigor in the parent stock. This has been demonstrated by using eggs from old hens and pullets in an incubator. The eggs from pullets produced as many chicks as the eggs from the hens, but in the brooder the loss from the lot of chicks hatched from eggs laid by pullets was three times as large as in the next lot, which was composed of chicks hatched from eggs laid by hens. All the chicks had the same sire, were fed alike and cared for alike in every respect, but the chicks from the matured hens were not only stronger and more vigorous, but they grew faster and gave more satisfaction in every way. The reason why some prefer to keep pullets is because they labor under the mistaken supposition that it is cheaper to raise pullets than to feed molting hens. Now, it costs something to feed the pullet from the egg to maturity, while only three months (or less) is required for the hens to molt. The majority of pullets do not lay until seven months old, and this period of time is a total loss. A hen should be in her prime at three years old. A breeder had a hen six years old that laid more eggs than any hen or pullet in his yard. In the comparison of chicks from eggs laid by pullets and hens, the chicks from the hens are much easier to raise, though the eggs from the pullets hatch equally as well. For breeding purposes use the hens. While the pullet may at first lay more than the hen, yet she is also more costly, considering that she must be raised.

PRESERVING EGGS—SULPHUR PROCESS.

Take a common starch-box with a sliding lid. Put the eggs in the box, and upon an oyster-shell or other suitable substance place a teaspoonful of sulphur. Set fire to the sulphur, and when the fumes begin to rise briskly shut up the lid, make the box tight, and do not disturb it for half an hour. Now take out the eggs, pack in oats, and the job is done. If the oats or packing-material be subjected to the same process it will be all the better. If a barrelful is to be preserved, place the eggs in a tight barrel two thirds full, with no packing whatever. Fire a pound of sulphur upon a suitable substance on top of the eggs in the vacant space over them, shut up tightly, let stand an hour, and then take out the eggs. As the gas is much heavier than air it will sink to the bottom, or, rather, fill up the barrel with the fumes. In another barrel or box place some oats, and treat in the same way. Now pack the eggs in the oats, head up the barrel, and turn the barrel every day to prevent falling of the yolks, using each end alternately, and they will keep a year, or, according to the efficiency of the operation, a shorter or longer time.

It will be seen by the above that the process is a dry and neat one, and very inexpensive, sulphur being a very cheap article. The process was sold several years ago by certain parties as "Ozone," but is an old one, and the parties were exposed, not that the process was a fraud, but because they sold a pound of sulphur as ozone for \$2.—Poultry-keeper.

IMPROVING AT A SMALL COST.

By being careful one can improve a common flock at a small cost, place on a farm one or two hundred fowls, and in two seasons have none but thoroughbreds upon it, all with a direct outlay of but a few dollars. It will, however, require work and care. It will not do to buy a trio or a pair of fowls of some good and desirable breed and, in turning them loose in the flock, expect in a year or two, by some magical means, to find the whole flock like them in form and feath-

er. Plenty of outbuildings are usually found on any farm, in some corner of which a nice little coop may be fitted up, with a small run attached, at a trifling outlay of time and labor. Here the work of improving the farm fowls should really begin. Some care should be exercised in building this yard to make it so that the mongrels, who usually fly like pigeons and can crawl through the smallest openings, may not get in with the pure-bred stock and fight with or disturb them. Wire netting for the roof and sides of such a run is the most effective way of keeping them out. The fowls and such a yard complete the fixings necessary to change the flock on any place, and from the fowls thus selected and attended to the mongrels can soon be superseded and in a gradual manner.

THE USE OF BROODERS.

Many novices make their own brooders, and only find out that they do not know how to properly construct a brooder after they have lost several hundred chicks. When it is remembered that to raise one hundred chicks for the market will more than pay for the brooder it is a mistake to attempt to economize by making one, when by purchasing a brooder there will be a saving of labor and more chicks raised. Brooders have been very successful, and there is nothing wrong with one that is made right. Hot-water incubators are also excellent, but they cannot be used except by keeping the water heated. With all brooders stoves, heaters or lamps must be used. The main point, however, is the care. No matter how the brooder is made, the attendant must watch it. If any one expects to raise chicks, and trusts to the brooder entirely, loss will result. A brooder should be so constructed as to retain the heat at somewhere near one hundred degrees, and it matters not how the brooder is made so that the temperature is maintained. There is no reason why a brooder should not do good work. The main point is the man, not the brooder, for one must be willing to look after the brooder both day and night.

GRAVEL AND EGG-SHELLS.

Gravel as usually found in most soils has been rounded by the air, water and heat, through wear and tear. Unless sharp it is valueless. As soon as the fowl rounds off a sharp substance in the gizzard it is voided; hence, hens prefer sharp shells to ground gravel. The reason they eat more shells when laying (or more sharp grit of any kind) is because (when laying) more food is required, and consequently there is better digestion and assimilation. Because an egg has specks or flakes of lime on the shell does not imply that it is due to feeding shells, as the same thing occurs when no oyster-shells are given. It may be due to the food, also. As a rule, such hens are fat. Some kinds of gravel are limestone and of the same composition as oyster-shells. There are millions of hens that never saw an oyster-shell, and they do not lay soft-shelled eggs. Soft-shelled eggs always indicate overfeeding.

LARGE RETURNS FROM POULTRY.

Readers should not object to the extra amount of attention devoted to the hen and her products. Eggs are comparatively low. They will soon be higher. Grain is cheap, but it will soon be dearer. If the farmer is to have any eggs to sell while eggs are scarce and dear he must begin the work of preparation now and keep at it. The price of eggs is not much, but the sum total of all the eggs produced in the country is greater in value than the products of the silver-mines. This country does not produce eggs enough to supply the home market. There is no other direction in which the intelligent use of labor and material will produce as certain and profitable returns as with poultry. A flock of hens kept on the farm and well-cared for means many comforts and luxuries that would not otherwise be possible.

We wish to call the attention of our readers to the ad of F. W. Mann Co., of Milford, Mass., which makes its first appearance with this issue for the season of 1898-9. These people are the manufacturers of the now world-famous Mann Green Bone Cutters which, since their introduction to the public, have completely revolutionized the poultry industry. There is abundance of testimony to prove that the feeding of green bone cut by these machines has doubled the production of eggs in hundreds of instances. These people wish us to state that they are better than ever prepared to handle the trade entrusted to them. See their ad on this page.

EGGS FOR HATCHING.

The selecting of the eggs is the first and most important matter in the hatching of chicks. Very large eggs, small eggs, eggs sharp at both ends, eggs that have protruberances, thin-shelled eggs, and such, should be discarded, as it is a waste of time using them. Eggs should be of normal size, perfect in shape, smooth and fresh. When the chicks are hatched out, do not feed them much wet foods, but keep them at work scratching for seeds, and you will have fewer cases of leg weakness and bowel disease. The matter of raising chicks, however, depends on the eggs from which they are hatched.

SAVE THE LEAVES.

If you do not rake up the leaves and lay in a supply of dry earth before winter you will make a mistake. Dry earth is an absorbent and a disinfectant, as well as permitting of easily cleaning the poultry-house. If a large supply of leaves are obtained in which the hens can scratch in winter the result will be less liability to disease and more eggs. Leaves on the floor make excellent protection from the cold drafts of air that come from below, and thus assist in keeping the poultry-house warm and comfortable.

INQUIRIES ANSWERED.

Fertile Eggs.—E. B. M., Columbus, Ohio, writes: "I have a flock of hens with which I have had no male. How long after I put a male with the flock will the eggs be suitable for hatching?"

REPLY:—From five days to two weeks, according to conditions. Individuality must be considered. The rule is to allow ten days.

Crossing with Pure Breeds.—E. E. R., Salem, Va., writes: "Can I change males—Plymouth Rocks—every year and be sure of new blood without using any other breed?"

REPLY:—Use males of White Plymouth Rocks next year with Barred Plymouth Rock hens; the second year use Buff Plymouth Rock males, and the third year go back to Barred Plymouth Rock males.

Loss of Young Turkeys.—Mrs. T. W., Gilman, Ill., writes: "My turkeys, two months old, occasionally droop and refuse food. I have examined them for lice. If I catch them water runs out of their mouths."

REPLY:—It is probably due to feeding them heavily on grain, as they require no food other than that secured by foraging. It is also possible that sharp gravel is lacking. The symptoms appear to be those of indigestion. Confine them for two or three days, withholding all food. Add a teaspoonful of tincture of iux vomica to every gallon of drinking-water.

Breaking Sitters.—L. B. G., San Antonio, Fla., writes: "How should sitting hens be treated when not desired for them to sit, and how long before they can be 'broken up'?"

REPLY:—Put each hen in a coop having sides and bottom made of open lath or strips one inch apart. Give no food for forty-eight hours, then feed an ounce of lean meat once a day. Give plenty of water. Such hens are usually fat, and fasting will not injure them. The open bottom prevents them from experiencing the heating sensation of sitting, and in four or five days they will be "cured" of the inclination to sit.

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They can't be profitable unless they do. They can't help laying if fed on Green Cut Bone and Granite Crystal Grit. They double the eggs.

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Our farm.

LIMING LAND.

A LARGE number of experiments conducted at this station and upon farms in various portions of the state have given every indication that large tracts of land in Rhode Island cannot be made to grow clover successfully by the use of ordinary commercial fertilizers until slaked lime, wood-ashes, or some form of lime other than land-plaster (gypsum), has been applied. Even large quantities of stable manure, unless applied annually, do not, on certain soils, insure an even stand and a large crop of clover, though such applications do increase it to a marked extent.

These experiments in different portions of the state have shown in a striking degree that what is true of clover is also true of timothy. Farmers who have been seeding their land with timothy, redtop and clover, and who, after one or two years, find it almost wholly occupied by Rhode Island bent and redtop, have usually attributed this fact to the quality of the timothy-seed which was employed, or to some other unknown or undreamed-of condition. It seems that timothy cannot be grown successfully on land which is very sour and which, in consequence, lacks carbonate of lime. Where lime has been applied timothy has been found to hold its own for much longer intervals of time, and it seems under such conditions to be capable of overcoming the redtop and Rhode Island bent in the natural struggle for existence. This explains satisfactorily why so many Rhode Island soils are so free from timothy and many other grasses, and are so well stocked with Rhode Island bent; since the latter grass, like redtop, will succeed on an acid soil and is not particularly benefited by liming. Rhode Island would probably never have acquired its reputation as a producer of Rhode Island bent-seed had the soil of the state been well supplied with lime.

English farmers, as a rule, and many also in Rhode Island and elsewhere in the United States, consider redtop inferior to timothy. The same is also true of Rhode Island bent, when the hay is designed for the feeding of horses. Doubtless there are some men who are such ardent advocates of Rhode Island bent that they would even claim it to be superior as a horse-hay to timothy, but the city markets demand the latter, and those who produce hay for market purposes will, of course, desire to grow that which the market demands.

Our experiments have also shown that Kentucky blue-grass cannot be made to succeed on very acid soils until liming is resorted to. This explains the failure which many farmers have met with who have attempted unsuccessfully to grow this grass. At the present time a large number of small fruits, orchard and forest trees are being experimented with at the station, for the purpose of ascertaining the effect of lime upon their growth.

Similar experiments are also being made with ornamental plants and with certain rare vegetables not previously tested here.

One of the most striking object-lessons which is to be seen at the present time is the wonderful effect of lime upon the growth of asparagus, and also the superiority of nitrate of soda as compared with sulphate of ammonia as a source of nitrogen for this crop. In view of the large amount of light land in the state which is admirably adapted for asparagus, and which fails to produce certain crops at a profit, there are those who might be interested to visit the station for the purpose of seeing the experiment for themselves.

The idea should not be gathered from what has been said that all plants are benefited by lime. Watermelons and muskmelons show exactly opposite requirements in this particular, muskmelons being helped by it and watermelons injured. About one hundred and fifty varieties of plants have already been tested at the station to ascertain their requirements in this particular. A record of the results may be found in the annual reports of this station for the years 1893-97 inclusive.—Bulletin No. 47, Rhode Island Experiment Station.

Queries.

READ THIS NOTICE.

Questions from regular subscribers of FARM AND FIRESIDE, and relating to matters of general interest, will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

To Eradicate Horse-radish.—T. B. C., Postville, Iowa. Thorough cultivation in crops like corn will kill horse-radish. Possibly the land where it grows luxuriantly needs drainage.

Blister-beetles.—L. W., Franklin county, Mo. The beetles which prey on your tomato-plants and late potatoes are probably the blister-beetles. Drive them from row to row to a row of straw placed along one side of the patch for that purpose, and then set fire to the straw.—T. GREINER.

Coal Soot and Sawdust.—P. E. C., Barton, Md., writes: "What value has coal soot as a fertilizer compared with wood-ashes? Is there any fertility in decayed hard-wood sawdust any more than in leaf-mold?"

REPLY BY T. GREINER.—There is very little plant-food contained in either coal soot or decayed sawdust.

The New Gang-plows.—D. V. D. P., Vinton county, Ohio, inquires how the Tornado gang-plow works.

REPLY.—I do not know whether it can be used on hill land. We have none of that description here. The size I have used cuts three furrows each eight inches wide. It does good work on stubble-land, but requires two very strong horses, or, better, three of them. It is hard on a team.—T. GREINER.

Grasses for Irrigated Meadow.—L. K. M., Warrior, Ala., writes: "I have a forty-acre tract of land which is so situated as to be easily irrigated. I wish to convert it into an irrigated meadow, and would be obliged for information as to the kinds of grass suitable for such purpose in this climate, and the proper method of preparing the land and sowing. I have thought of using alfalfa. The land is rather sandy, with stiff clay subsoil, and is subject to occasional overflow."

REPLY.—Write to Experiment Station, Auburn, Ala., for list of grasses best suited for your purpose. The conditions of stiff clay subsoil and overflowing are not favorable for alfalfa.

Keeping Beets, Radishes, etc., in Winter.—M. H. H., Baltimore, Md., writes: "Can beets, winter radishes and salsify be stored for winter use by packing them in sand, like carrots? If so, will they keep well?"

REPLY BY T. GREINER.—Storing in sand in a barrel or box or in a covered beap in a cool cellar is as good a method of keeping beets, winter radishes, carrots, and the like, as I know of. I usually put carrots and beets in bins, but unless they are used from the top every day the more exposed ones are liable to wilt. I like mine fresh and succulent. They are not good otherwise. The least that should be done, where only small quantities are stored in the cellar, is to cover them with sod, some old carpet or something of that sort.

VETERINARY.

Conducted by Dr. H. J. Detmers.

To regular subscribers of FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired, the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Subscribers may send their veterinary queries directly to Dr. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered under any circumstances.

Seems to Be Weak.—M. B. P., Kalispell, Mont. It is impossible to make out from your statement what may ail your horse, except that he "seems" to be weak in his legs and that his chin "jerks."

A Lame Mare.—J. L., Belleville, Ill. I am sorry not to be able to make out a diagnosis from your description, and therefore cannot answer your questions. It will be best to have your mare examined by a veterinarian.

Bloody Milk.—A. L. B., Pawnee Rock, Kan. Bloody milk in cows, as has been repeatedly stated in these columns, may be produced by many widely different causes; hence, I cannot give you any satisfactory answer upon the simple statement that your cow gives "bloody milk."

Probably Actinomycesis.—L. H. M., Longton, Kan. What you describe appears to be a case of actinomycesis (lumpy-jaw) in the superior maxillary bone, and if so, and you examine the molars in the upper jaw, you very likely will find one or more of them

loose and decayed. Only such cases of actinomycesis in which the morbid process is limited to the skin and the subcutaneous connective tissues will yield to treatment. The disease, however, is local, and does not affect the whole carcass.

Hard to Milk.—J. G. B., Hayes' Store, Va. If your cow is hard to milk and yet young, vigorous milking will effect a gradual improvement, but will never make her easy milking, while gingerly milking will increase the defect. Any attempt to enlarge the opening in the teats by means of instruments, etc., is apt to be followed by serious consequences. Therefore avoid it.

Possibly Actinomycesis.—A. D., Timbo, Ark. What you attempt to describe may possibly also be a case of actinomycesis like that of L. H. M., Longton, Kan., but I am by no means sure of it. Your description is too indefinite. Hollow horns is only an imaginary disease or a term applied by some persons to cases of sickness in cattle not understood by them. All horns of grown cattle are hollow.

Lung-worms in Pigs.—E. W., Tennessee City, Tenn. If your pigs are strong and vigorous, and the lung-worms are not too numerous, the pigs may pull through. Nothing can be done with medication, because the worms, having their seat in the finest ramifications of the bronchi, are inaccessible. The preventive of the disease consists in not allowing pigs, particularly in the spring and fore part of the summer, any access whatever to stagnant water in pools and ditches receiving the drainage of hog-lots and being the repositories of the worm-brood.

Treatment of Curb.—C. H. E., Etowah, N. C. It is exceedingly difficult to give such directions for the treatment of diseases as will make any mistakes or errors of judgment impossible. If the curb of your horse, probably yet a young animal, has been one half reduced in size, and if there is no more lameness, it will probably be best that you do nothing but exempt the animal from any kind of hard work, particularly pulling heavy loads uphill, from any service as a saddle-horse, and from any kind of work in which galloping is required, and to see to it that the horse receives sufficient quantities of good and nutritious food, for then the curb is almost sure to disappear in the course of time, say in a few years.

Diseased Eye.—F. T. L., Los Banos, Cal. You say that your cow has a bluish-white spot on the pupil (?) (you probably mean on the cornea) of her eye, causing her much pain, as the eye waters continually. Your further statement, saying "it has affected the sight of the other eye so that she is almost blind, although the other eye appears well," is probably based upon a mistake. If you had made a close examination of the diseased eye you would probably have found that the whole trouble is due to the lodgment of a foreign body upon the cornea, hidden, perhaps, by the eyelid. When this reaches you the foreign body, maybe a chaff, is probably yet there, but will have become covered by the exudates, and it may require a veterinarian to remove it.

Suspects a Hernia.—W. D. C., Normandy, Mo. You can easily ascertain whether the enlargement of your heifer's udder is simply a swelling of the mammary glands or a hernia. If it is the latter the enlargement will be one-sided, somewhat doughy to the touch, and can be made to disappear if the heifer, when lying down, is rolled upon its back, or if the swelling is manipulated a little, provided this is done while the stomachs are not too full of food or not immediately after a heavy meal. If the enlargement is caused by a swelling of the mammary glands the latter will be more uniform and much warmer to the touch, will not be doughy, and cannot be reduced. If it is a hernia, and the udder constitutes the hernia sac, not much can be done by way of treatment.

An Itching Skin Disease.—C. H. C., La Crosse, Fla. Your statement is too meager to serve as a basis for a reliable diagnosis. It appears probable, though, that the disease of your three horses is an exanthema, perhaps of the nodular form, often called prurigo. Wash the swelled and itching parts with soap and water, and then either with a three-per-cent solution of carbolic acid or creolin in water, once a day, several days in succession, reduce the diet of the animals and do not expose them to the heat of the sun any more than is absolutely necessary. If the horses are in the least costive give them some sulphate of soda (three to four ounces each three times a day) in the water for drinking, or if they refuse to take the medicine in that way, give them a physic of from six to eight drams of aloes in the shape of a pill.

Unclean Coat of Hair—Collar-boil.—W. O. L., Powell, Neb. Unless your mare suffers from a chronic disease, for instance, a chronic lung trouble or a chronic uterine disease, I cannot answer your question. It is hardly probable that she is affected with a chronic digestive disorder, for then her appetite would not be as good as you say it is.—As to your horse with a "lump on his shoulder," which probably means a shoulder-boil, a surgical operation will be required to remove the latter, although it may perhaps be sufficient to cut into the boil from the lowest practicable point to the center of the same, and to insert a crystal of sulphate of copper, and it may be necessary to excise the whole growth by means of the surgical knife. But not knowing any more about the case in question than what you say in your statement about the presence of a firm "lump," I cannot decide what kind of an operation will be required or be the most practical. Still, this is not necessary, because neither of the two operations mentioned should be performed by any one except a competent veterinarian, and he will not need any advice how to proceed.



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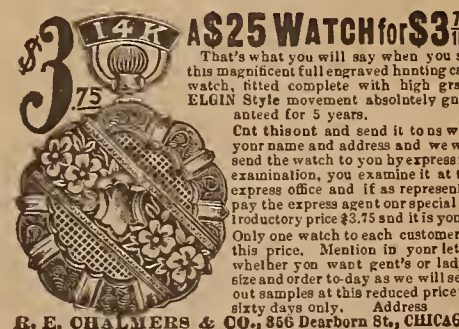
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LOVE'S FULFILLING.

Oh, love is weak

Which counts the answers and the gains,
Weighs all the losses and the pains,
And eagerly each fond word drains
A joy to seek!

When love is strong

It never tarries to take heed
Or know if its return exceed
Its gift; in its sweet haste no greed,
No strifes belong.

It hardly asks

If it be loved at all, to take
So barren seems, when it can make
Such bliss, for the beloved sake,
Of bitter tasks.

Its ecstasy

Could find hard death so heauteous;
It sees through tears how Christ loved us,
And speaks, in saying "I love thus,"
No blasphemy.

So much we miss

If love is weak, so much we gain
If love is strong; God thinks no pain
Too sharp or lasting to ordain
To teach us this.

—H. H.

THE KLONDIKE FEVER IN BUTTERVILLE.

BY MAUDE MORRISON HUEY.



HERE ain't no use in your follerin' me out here, 'Lecta, my mind's sot," said Hezakiah Bently, shifting uneasily upon the old saw-horse and crossing one brown overalled leg over the other. "You might as well go back in the house an' shut the door. You've yapped at me 'nough t' last f'r one spell."

"Well, I guess you'll hear considerable more, Hez'kar, 'fore I git said what I'm goin' t' say. I'd like t' know who started this hagglin', anyhow," and Aunt Electa brandished the dish-towel she held in her right hand energetically.

"Who started it?" retorted Uncle Hezakiah, with disgust. "Who else ever does start it but you, I'd like t' know. Didn't you keep it up ever' blessed minute while I was eatin' my dinner? An' did that satisfy ye? No, here ye be, chased out here where I come t' git rid of ye. A pile o' peace a man takes 'round these diggin's, I swan!" and Uncle Hezakiah snatched a sliver wrathfully from an elm block near his feet, and began to whittle for dear life.

"Peace! Peace!" and Aunt Electa's face grew red in her excitement. "A pile o' peace anybudy gits, f'r that matter. I guess you'd think 'peace' if ever' blessed thing you heard from the time the first rooster crowed in the mornin' was jest 'Klondike! Klondike!' an' 'gold, gold, gold,' till land o' love knows I wish the whole Klondike region would sink offen the face o' the airth, if might be; an' I guess more'n one poor woman wishes the same."

"Yes, I s'pose there's more'n one," put in Uncle Hezakiah. "I never see a woman yit that didn't want t' buck 'g'in anything a man tried t' do. This is jest the way you went on afore, when I got the Cripple creek fever."

"Fever!" ejaculated Aunt Electa. "I'm glad you know what t' call it, Hez'kar. I'd call it a streak o' idiocy if I had the nam'n' o' it. A man's allus havin' some kind o' fever 'r other. I guess your fever'd soon git cooled off if you got up in the Klondike region. An' land o' goodness! I don't know but 'twould be a good thing, seeln' you're subject t' fevers."

"You're allus settlin' your foot down 'g'in everything I want t' do," complained Uncle Hezakiah. "No use o' me tryin' ever t' be more'n nu' ole clodhopper. You keep me a-ploddin' right 'long in the same ole holler, an' if I once try t' wiggle out ther's n terrible how-de-do."

"It's me, Yes, o' course it's me!" cried Aunt Electa, vehemently. "It's me, I s'pose, that's a-keepin' ye a-sittin' out here on an ole horse-block while ever' blessed thing about the place is goin' t' rack an' ruin—the weeds in the corn 'nough s'light hiber'n the crop, an' everything ditto. If you had any very aspirin' ambition I should think you'd get 'round an' see t' things, not set here 'ith your hands in your pockets, a-buiddin' houses o' air. A bird in the hand is worth two in the bush, says I, ever' time. Folks kin talk 'bout gold a-layin' round loose f'r folks t' plek up at leisure that wants to, an' folks kin put stock in it as wants to. I've heard geese afore. If I wanted somethin' t' dig s' bad I think I'd ten t' my taters."

"Yes, that's it, ten t' your taters," commenced Uncle Hezakiah. "I s'pose if there's fortunes t' be had a-sallin' right 'round over my head, an' all I had t' do was jest t' reach up an' fetch 'em down, I'd best t' ten t' my taters an' let 'em sail. A woman never does care 'bout keepin' up with the times. Now, there was John Grubbs; when

he talked o' goin' t' Cripple creek, didn't his wife jest purty nigh tear the roof down over their heads? I vum! I could hear 'er clean out in the south lot where I was underbrushin'. Jest a-singin' things high an' han'some. She 'lowed he'd waste all his mouey an' land 'em clean in the poor-house. She didn't b'lieve he'd ever git back alive, goin' into such a wild an' wooley country; but John Grubbs wa'n't no man t' listen to a woman."

"No, John Grubbs wa'n't no man t' listen to a woman," interrupted Aunt Electa, "an' f'r more'n a year past hain't poor Emily Grubbs took in washin's an' done odd jobs in the house an' held t' keep the bare necessities o' life f'r her an' that poor blessid young 'nu; an' now hain't the poor young thing down flat o' 'er back, an' I'll like as not never git up ag'in? Hain't there been times when they've suffered f'r victuals an' fire, poor critters? An' that shuffles John Grubbs a-gal-avantin' 'round, the land only knows where. I guess it's been nigh onto a year since they got even as much as a line from 'im. I guess if ther's any gold Emily won't see hide n'r hair of it, that's my notion. If John Grubbs had been a man t' listen to a woman, as you tell about, his family wouldn't 'a' been in the shape they be now, an' the farm wouldn't 'a' gone t' pay up debts like it has now. There's lots worse things you'll find, Hez'kar, than listenin' t' a woman, if I do say it."

"When do you think o' startin' t' the Klondike, Hez'kar, anyhow?" Aunt Electa asked the question, quizzically, the while she settled herself composedly upon the chopping-block.

"I don't know what difference it makes. 'Twon't be to-day n'r to-morrow," answered Uncle Hezakiah, uneasily. "I'll go when t'other fellers do."

"Who all's goin'?"

"Well, Lem' Keats, f'r onc. Me'n him had planned—"

"Lem' Keats! How many more o' that stamp," interrupted Aunt Electa, disdainfully. "You an' Lem' Keats, an' who else, Hez'kar?"

"Well, Dan Briggs talks some of it, an' Lige Elders. You needn't be runnin' down Lem' Keats, 'Lecta. He mebbey hain't got much o' this world's goods, but he's a rattlin' good feller jest the same."

"Good! Yes, good f'r nothin'. It's all cut an' dried, then, Hez'kar, you're goin'? You an' Lem' Keats an' Lige Elders. Well, bow he you goin', Hez'kar; goin' t' walk?"

"Oh, we got our plans set," said Uncle Hezakiah, mysteriously. "There's more'n one way t' the woods, says I. We've got our calculations all laid out."

Aunt Electa made no reply to this, only a little dry "huh" escaped her lips as she folded her arms in a listening attitude.

"You see," went on Uncle Hezakiah, "it don't take s' overy much money, if a body only don't think so. Some folks think they can't do nothin' 'thout there's a whole bank t' back 'em. They've got t' have this, an' they've got t' have that; but it's all their notion. Take a body that likes rough livin' (an' ther' alu't nobody relishes it better'n me)."

"Yes, I should think you did, Hez'kar. If you have a nice warm fire t' toast y'r shins by, an' plenty o' victuals, good pie an' cake, an' nicknacks, too, you could stan' it t' rough it first-rate. I think then you might relish it as well as the next one."

"Now, 'Lecta, what's the use o' your tellin' it! You know I hain't no hand f'r nicknacks, and pie—I hain't no special tooth f'r pie, an' you know it as well as I do."

"No, I don't know as you've got any special tooth, Hez'kar," said Aunt Electa; "but pie seems t' fit your mouth purty well all over."

"I guess you hain't no grudge 'gainst pie y'rself, ma, you allus seem t' eat your sheer," said Uncle Hezakiah, defensively. "I'd like t' see what you'd do up in the Klondike. You'd freeze plum t' death. The first North wind that blowed you'd be ready t' hump up over a fire some place. You never bear me gruntin' 'bout the cold."

"No, nu' you never hear me groanin' with the rheumatics, an' a-rubbin' horse-liniment all over myself ever' cold snap. I wonder how rheumatics'll feel up in the Klondike country. I don't b'lieve you know where Klondike is, Hez'kar Bently, I don't, really. You never did know more'n an ole settin' hen 'bout geog'phy. Now, where'd you s'pose 'tis, in Florida 'r Kam'scatky, which?"

"You know s' much, answer y'r own questions," retorted Uncle Hezakiah, hotly. "I hain't quite n fool, 'Lecta, if I do look it. Lem' Keats' Uncle Ike, that lves some'ers up in Can'dy, he says tain't fur from his place, Lem's been there time an' ag'in, an' he says tain't no colder there'n 'tis here, to speak of. A body wouldn't notice the change if they wasn't a-lookin' f'r it. These big yarns them fellers 'r tellin' 'bout it's hel'n' s' all-fired tough, t' my notion is jest hatched up t' scare fellers out; but they can't come no such dodge on them that knows better. If ther's any gold a-layin' round loose I guess we might 'bout's well have it as anybudy. You're so set 'bout buiddin' a new two-story, 'Lecta, mebbey me might have money 'nough time I get back from the Klondike," he remarked, in a conciliatory tone that made no impression upon Aunt Electa; she sat twirling up a little corner of the dish-towel between her thumb and forefinger, and kicking

the toe of her cowhide shoe into the soft chippy earth about the old chopping-block. Presently she got up, and drawing a deep sigh, moved slowly into the little low kitchen.

Uncle Hezakiah sat for some time after she had gone, whittling meditatively and watching with absent eyes the chickens that hopped up now and then to snatch the sweet-peas from Aunt Electa's vines creeping up over the arbor; then he ambled slowly off to the barn with an expression upon his ruddy countenance that seemed not at all to harmonize with the cheery summer sunshine.

Aunt Electa finished up her dishes with mechanical fingers, forgetting, in her absent-mindedness, to turn the cups over in an orderly row or two, as was her wont, scattering them instead in disorderly chaos over the papered shelves; and instead of turning the bright tin dish-pan bottom up upon the three-legged table outside the door, where it might be transformed into a miniature sun itself, she set it holt upright, with the moisture still undried in the bottom, which was a strange thing for Aunt Electa.

"'Twon't do me no good t' talk no more'n it did Emily Grubbs, I don't s'pose," she said, as she took a striped yarn mitten from the knitting-basket, and sat down in the little armless rocker by the window.

"When a man makes his mind up, no matter how outlandish the thing is; you couldn't make 'im see it, not if you talked a week. Some no-count shift like Lem' Keats kin make the moon out t' be green cheese, an' there's them that'll see it so. I never did see the beat! The best thing t' do, I s'pose, is t' say as little as possible, the less said the better. If you want t' rile n man right up t' do the very meanest thing out you jest want t' tell 'im not t' do it. The best way is jest t' fall right in an help matters on. But land o' me! I do lose patience 'ith Hez'kar."

When Uncle Hezakiah came in from the barn Aunt Electa looked up with a smile.

"I s'pose you'll want t' take y'r winter clothes 'long, Hez'kar; your woolen socks nu' snow-packs. You better git 'em out an' see that ther' ain't no holes in the toes n'r nothin'. I'll have your mittens toed off in a little spell, then I'm goin' t' commence on your striped yarn muffler; you'll need that up t' the Klondike, won't ye, Hez'kar?"

"I dunno," grumbled Uncle Hezakiah, a look of puzzled surprise creeping over his face.

"There's your hair coat; you'll take that; 'r don't ye think o' stayin' till cold weather comes on?" went on Aunt Electa; but Uncle Hezakiah was busying himself with poking the fading kitchen fire, and paid no heed to Aunt Electa's question.

"There's Job Henskey's boy Jimmie, I guess I kin git him t' do chores an' see t' things while you're gone. I'd need somebody, an' he's a real good mnager. I could trust 'im t' go right ahead with things; an' then in the winter he could stay right on nu' go t' deestrie school, doin' chores f'r 'is board, bein' us you stayed that long, Hez'kar. I'm goin' over t' stop a spell with Mis' Henskey after awhile. Shall I speak t' Jimmie an' see if he's willin'?"

"I don't care what ye do," replied Uncle Hezakiah, gruffly, fidgeting about uneasily in the big rocker drawn up before the stove. "Seems t' me you're in n terrible yank, 'Lecta."

"I thought 'twas best t' be forehanded. If you think there's any uncertainty, Hez'kar—"

"Jest go right ahead if you want," he interrupted, pulling his pipe with a sprited yank from a crack in the smoke-browned wall, and filling it from a little sack he always carried in his pocket.

"That's what I took ye t' say. Then I'll see Jimmie?" she inquired, anxiously. Uncle Hezakiah was trying to balance a glowing coal from the hearth upon the claw of the stove-handle.

Aunt Electa pursued her subject untiringly, making plans for the proposed Klondike expedition with an interest that baffled Uncle Hezakiah. He could not see the merry twinkle lurking in her eyes. "Shall I put ye up a lunch, Hez'kar, say f'r 'bout day after to-morrow?"

"Who said we wanted any lunch put up," retorted Uncle Hezakiah, hotly. "I guess we hain't goin' off on no picnic."

"Oh, I didn't know," said Aunt Electa, mildly. "How be ye goin' t' mauage?"

"I shouldn't wonder if we'd run across a store som'ers twixt here an' the Klondike, where we could get a snack o' somethin' t' eat," Uncle Hezakiah had succeeded at last in lodging the coal safely in his pipe-bowl, and settling himself in what is a man's idea of a comfortable attitude, shoulders plunged deep down amongst the chair cushions and feet elevated to the back of an ordinary table chair, he puffed on in silence.

The voice of the little walnut clock on the mantel sounded loud and harsh in the great silent room. Aunt Electa's needles flew swift-er and swifter till the last stitch in the striped yarn mitten had been taken; then she took a clean white apron from the old-fashioned brown clothes-press in the corner, and tied it on over her plaid cotton frock. She took her gingham sunbonnet from its peg on the clothes-bars. "Hez'kar," she said, softly, "Hez'kar, I'm goin'."

Uncle Hezakiah stirred uneasily among the cushions.

"Shall I tell Jimmie 'bout the first o' the week'll do? Will that time be all right, Hez'kar?" persisted Aunt Electa, unreluctingly, taking seeming delight in Uncle Hezakiah's irritation.

Uncle Hezakiah sat up and rubbed his eyes. He took his cold pipe from between his teeth and struck it in its accustomed crack. "Hub!" he said, turning his face toward Aunt Electa. "Shall I tell 'im t' start in fresh Monday? I allus like t' have a new hand start in the beginnin' o' the week," said Aunt Electa, watching with a peculiar twinkle the expression of Uncle Hezakiah's face.

"Tell 'im what ye please," said Uncle Hezakiah, stolidly. "I guess I kin be ready by Monday, seeln' you're in such a fling, 'Lecta," he added, resentfully.

"If I thought—" began Aunt Electa.

"Tell 'im Monday," interrupted Uncle Hezakiah, hurying himself again in the chair cushions and refusing to say another word.

After Aunt Electa had gone Uncle Hezakiah raised himself up and looked uneasily about the familiar homely room. So it was all "cut and dried," as Aunt Electa had said, and somehow the feeling grew and grew in Uncle Hezakiah's heart that it had been Aunt Electa who had proposed the Klondike trip, and Aunt Electa who was going to bundle him up and ship him off whether or no, and a feeling of rebellion awoke within him. But all the same he would go. He would show Electa if she was so "all-fired set" on getting rid of him he wasn't the man to back out at that day and hour.

So he got up and commenced looking up his things. He took his gun from behind the bedroom door, and polished the barrel till it was bright and shining, and loaded up some cartridges. He went out into the shed to see how much fishing-tackle he had, and spent an hour or so mending a minnow-net that had done Uncle Hezakiah service years ago.

Aunt Electa lost no time in the days that followed gathering together all Uncle Hezakiah's belongings needful for a long journey, packing them in neat compact shape in the old leather hand-bag that had carried their possessions that day so long ago when they had set out upon their wedding trip.

Henskey's Jimmie was perfectly willing to come and keep her company, and she'd get along first-rate, so she told Uncle Hezakiah, nsuringly.

Not a thing was forgotten that could add in any way to Uncle Hezakiah's comfort, and in spite of his protest she put up a lunch, "t' sort o' start in with," she said—a loaf of substantial wheat bread and some cold sliced ham that she had boiled on purpose for the occasion.

She asked no questions of Uncle Hezakiah, only once, when she saw him looking thoughtfully out the window and listening to the passenger-train puffing into the little station at Butterville Corners, a mile distant, she said, holding her doughy hands up over a batch of cookies she was mixing. "That's the train you'll be takin' to-morrow, ain't it, Hez'kar, the ten-o'clock train goin' north?"

"Uh-huh!" grunted Uncle Hezakiah, under his breath, his eyes still following the yellow butterfly that dipped and dived into the honied hearts of Aunt Electa's morning-glories.

Aunt Electa heaped the table these last few meals with extra goodies, pies, doughnuts and frosted cake. She killed the fattest of all her spring roosters, and made some of the delicious crab-apple preserves that were Uncle Hezakiah's special delight.

"Eat your fill, Hez'kar," she said. "Here, try another piece o' this fruit-cake, it's got dried cherries an' thin slices o' dried pear in it. You know you're extra fond of it, Hez'kar." Or, "here, try a leg o' this chicken; it's fried down in butter as crisp as can be. You know chickens don't thrive on the s'il o' the Klondike region."

Uncle Hezakiah went about the house with a woebegone expression upon his homely countenance far removed from the exhilaration of two mornings ago. With a sinking heart he noticed Aunt Electa's apparent good spirits, as she finished up his wool muffler and sewed patches upon his pants to last for a year.

But all Aunt Electa's bravery sort of melted when the one-horse vehicle of Lige Elders, that had been arranged for this momentous occasion to take Uncle Hezakiah and his companions to the station, drove up to the door. With nervous fingers she helped load in Uncle Hezakiah's belongings, and there were tears in her eyes in spite of herself as she buttoned another button of his threadbare coat.

"Take keer o' y'rself, 'Lecta," said Uncle Hezakiah, brentling away rather roughly from her parting embrace.

"Don't be careless, Hez'kar, an' expose y'rself. There's your socks in the left-hand corner o' the satchel, an' some woolen shirts in case you need 'em. Now, good-by, Hez'kar, an' don't stay allus."

Aunt Electa turned away from the open door to wipe her eyes on her cotton sleeve. She began straightening things up about the little sitting-room. "Taint 's if I didn't know Hez'kar," she reassured herself. "I kin read him like a book, an' there won't nothin' else ever cure 'im."

So things moved on in their usual orderly way. Jimmie Henskey fed the horses and the

pigs, milked the cows and carried water from the spring for Aunt Electa. The meals were gotten, the dishes washed and the floors swept in their usual timely routine; and Aunt Electa's voice as cheery as ever clucked to the chickens to call them to their regular rations of yellow corn-meal. Every day, just as before, Aunt Electa might be seen sitting awhile before supper with her knitting, sewing or darning, as the case might be, in the little armless rocker by the window, only now and then she would reach down, and drawing Nig, Uncle Hezekiah's black cat, up on her lap, would pat him with unwonted vigor, calling him a great many pet names, much to old Nigger's astonishment and disgust, for Aunt Electa "wasn't no hand for cats," as she often said herself.

Aunt Electa was not mistaken in her impression that she "knew Hez'kiah." It yet lacked two days of a week since Uncle Hezekiah had started upon his supposed journey to the Klondike, when, returning from the garden with a crisp head of cabbage out-held in her hand, she espied a familiar figure standing before her pantry door, with a huge piece of blackberry pie half devoured in one hand and the remains of a sugared doughnut in the other. 'Twas a piece from the very pie Aunt Electa had baked for Uncle Hezekiah to take with his lunch; but he had raised such serious objections that the pie had been placed again upon the pantry shelf, where it had remained untouched ever since, for Aunt Electa hadn't the heart to eat it, she said.

"So you thought you'd come back f'r it, after all," said Aunt Electa, laughing, after she had shuffled her feet upon the door-step to make her presence known. "They didn't have as good pies up in the Klondike as you calculated on, did they, Hez'kiah?"

Uncle Hezekiah turned upon her a shame-faced countenance, and struggled to rid his mouth of pie. "'Tis all-fired good, 'Lecta,'" he managed to stutter out.

Then Aunt Electa caught sight of what she had not observed before, a wee mite of humanity in a red cotton apron seated among the cushions of Uncle Hezekiah's own rocker, with bare feet sticking stiffly out, and yellow curls bent low over a confused mess of juicy pie. Aunt Electa recognized the curls. "'Why, Malissy Grubbs!'" she cried, overcome by the sight of the child's bedaubed and berry-stained condition. "Whatever would your mother say. Hez'kiah, how could you!" And grabbing a towel from the line behind the stove she pinned it about the little one's neck, who ate unconcernedly on, as though she had been accustomed to eating blackberry pie in a strange house every day of her life.

"Wode on man's neck. Funny horse! Git up! Gee!" she lisped, kicking her little bare feet in childish delight.

"You'd 'a' thought funny horse if you'd seen us, 'Lecta,'" explained Uncle Hezekiah. "She got tired o' walkin', so I b'sted 'er atop o' my shoulders, poor little mite."

"Her ma ain't worse, is she," gasped Aunt Electa, the thought just occurring to her. "Her ma hain't had another spell?"

"You see it was this way," went on Uncle Hezekiah, between huge mouthfuls of pie. "I was just comin' along a-past Grubbs' place when I see some men standin' 'round the door-step that looked like strangers, so I went in, thiukin' mebbey they'd fetched news o' John, an—"

"Land alive! Emily wa'n't dead, was she?" cried Aunt Electa, excitedly.

"No, Emily wa'n't, but there in the middle o' the floor was a coffin. You see, them men had jest fetched John's body home. He got killed some'ers 'mougst the mines, they said. They wrot Emily a letter, but somehow it didn't reach 'er, and the shoeck jest took Emily right out of 'er senses. They couldn't do a thing with 'er. The sight o' that coffin jest seemed to 'a' druv 'er plum crazy. One of 'em, a doctor he said he was, thought they'd hest t' take 'er to the hospital in Kentville. He didn't think she'd be likely t' ever rally, hein' that low with consumption t' begin with. They didn't know what was best f'r the baby, so I told 'em I'd see she had good tendin'. Wasn't that right, 'Lecta?"

Aunt Electa had gathered the wondering little Malissy up in her strong motherly arms, and was weeping bitter tears among the child's yellow curls. "Poor little wee thiug," she cried, "with 'er mother killed right 'fore 'er very eyes. Ther' ain't nothin' too much t' do f'r 'er. I'm so glad you fetched 'er, Hez'kiah. Oh, poor Emily! Wasn't it awful!" And Aunt Electa hugged the struggling child till she set up a frightened cry.

"There, there, you musn't feel bad, we'll be just as good to ye as we know how. Don't you want an apple?" she questioned, holding a rosy-cheeked strawberry up coaxingly.

"We'll have apple grunt f'r dinner. I guess you'll know how to 'preciate apple grunt b' this time, won't you, Hez'kiah? Apple grunt with milk ponred over?"

"Jest the stuff," said Uncle Hezekiah, sniffing hungrily at the spicy odors that fumed forth from the oven door, as Aunt Electa opened it to look inside.

"Your sweet tooth got quite an aidge onto it while you was up t' the Klondike, didn't it, Hez'kiah?" questioned Aunt Electa, with the old merry twinkle in her eyes. "Seems t' me I hain't seen no gold stickin' out o' your pockets no'ers. What ye done with it?"

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"Why, here 'tis, 'Lecta," said Uncle Hezekiah, awkwardly drawing one of little Malissy's shining curls over his rough forefinger. She had crept up into his great lap and laid her head back trustingly against the breadth of his coarse coat. "It's as yell'er an' bright as any gold ever was. Ther' can't nobody say I didn't fetch baek gold from the Klondike," he continued, with a clumsy attempt at humor.

"Say, 'Lecta, did you see the fish I caught? They're in that pail," pointing to a battered tin affair half hidden from sight under the ironing-board. "There's some ten-footers in there as sure's you're alive."

"Well, I never!" said Aunt Electa, as she examined the contents of the pail. "Where'd you catch 'em, Hez'kiah?"

"Oh, up t' the Klondike," replied Uncle Hezekiah, laughing. "Say, hain't seen nothin' o' my liniment bottle 'round no'ers, have ye? Blamed if I hain't stiffer 'n ole cart-horse. My j'int's creaks wo'se 'n a rickety ole wheelbarrow ever' time I move. The way the winds blow up to them lakes is a caution."

And Aunt Electa smiled to herself as she clambered up on a chair to search among the sundry bottles of curatives.

HOW THE CHINESE RECKON THEIR AGES.

The Chinese do not reckon their age from the day of birth, but from New-Year's day. It is on this account sometimes difficult to find out the true age of children. Here is a tiny shaven-headed bundle of humanity, scarcely able to stand alone for a moment, and you are gravely assured that he is three years old! If you have left the sacred rules of propriety at home, you venture mildly and politely to cast just a faint shadow of doubt upon the statement; or if you do not discredit the parents' assertion, but are still unacquainted with the mode of reckoning, you probably condole with its parents on the slight degree of progress he has made toward maturity. Should a child arrive in this world at five minutes to twelve on New-Year's eve, the fond father will proudly assure you the next morning that the new arrival is two years old, and never so much as think what he says is untrue. Seeing that clocks are very scarce articles except along the coast, and that even where a clock is found time is a very elastic and variable quantity, one wonders how such matters are determined in certain cases. The Chinese do not conceal their age, nor do they ever try to represent themselves as younger than they are. There is a much stronger tendency to add to the stated number of their years than to diminish it. On being introduced to a new acquaintance, the first question is, "What is your distinguished surname?" and the second is, "What is your honorable age?" You reply to one as readily as to the other. Age is so much respected that it is considered a distinction to be advancing in years. There are eight or ten different names which correspond to "Mr." according to the appearance of age, or real age, to which a man has attained, and the same for women. Besides, it is a matter of great congratulation as years go by that one has been spared to add another year to the term of life. The length of the reign of the emperor, the term of official service, the engagement of servants, the period of residence in a locality—all are dated from the New-year. However brief may be the portion of time that belongs to the old or new year, it is reckoned as a full year.

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INVENTION OF LAMPS.

The invention of lamps is ascribed to the Egyptians. In the British Museum are two colored glazed tiles which were fixed in the center of the ceiling; each has a large knob pierced through the base to receive a cord for suspending a lamp; around the base of each is an inscription stating that it formed part of the decoration of the Temple of Kaunmri at Calah Nimrod in the time of Assura-Abia, 885 B. C. What the lamps were made of cannot now be ascertained, but there is plenty of contemporaneous glass which has been discovered in the neighborhood.

The sacred lamps in Greek temples, whose undying flames were perpetually watched by vestas, were probably of metal, and the wick formed of asbestos.

In the public baths at Pompeii two lamps were used, each to light two rooms. These lamps were protected by circular convex glasses, fragments of which were found on the spot.

The marvelous accounts by medieval authors of perpetually burning lamps found in ancient tombs seem too numerous and well tested to be altogether fabulous. When the tomb of Pallas, son of Evander, who is mentioned by Virgil, was discovered about the twelfth century by a countryman digging near Rome, it is said a lighted lamp was still burning over his head, which must have been lighted more than 2,000 years, and might be called eternal.

Baptista Porta, in his treatise on natural magic, relates that about 1550 a marble sepulcher of the Roman period was discovered in an island near Naples, and on opening the tomb was found a vial containing a burning lamp. This lamp became extinct on breaking the vial and exposing the flame to the open air. It is supposed that this lamp had been concealed before the Christian era, and those who saw it reported that the lamp emitted a splendid flame.

In 1550 a remarkable lamp was found near Atestes, Padua, by a rustic digger, who unearthed a terra-cotta urn containing another urn in which was a lamp placed between two cylindrical vessels, each of which was full of a very pure liquid, by whose virtue the lamp had been kept shining upward of 1,500 years. This curious lamp was not meant to scare away evil spirits from a tomb, but was an attempt to perpetuate the profound knowledge of Maximus Gilybius, who effected this wonder by his extraordinary skill in chemical art.

St. Augustine says a lamp was found in the temple of Veuus, exposed always to the open weather, and which could never be extinguished. Ludovicus Fives mentions another lamp, which was found a little before his time, that had continued burning 1,050 years.—World of Progress.

ACCIDENT PRECAUTIONS.

Before starting on a journey see that your name is clearly marked on some article of your clothing, as well as with your address in your pocketbook. In case of accident it may be of incalculable advantage to you to be immediately identified. While there are frequent and terrible disasters on our large public conveyances, the relative loss of life is much less than by the older and less rapid methods. At all times it is desirable to go tagged, and if people would wear clothes properly marked, or carry other means of identification about them, there wouldn't be so many missing people unaccounted for, and many an occupant of a nameless grave would be identified. Letters stitched into the bands of a skirt or other garment is probably the surest method.

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SCRAP-BOOK HISTORY.

Patriotic and enterprising persons who undertook at the beginning of the Cuban War to keep a scrap-book history of the conflict have probably discovered before this that it was a task involving greater labor than they had anticipated, but when they learn that a history of the Civil War made from newspaper clippings has been the life-work of its compiler, and that he does not yet consider it complete, they will be still more disconcerted. The Townsend collection of classified newspaper scraps, to which allusion has been made in the papers at intervals, is contained in ninety great volumes, like merchants' ledgers, of which all except the first are filled from end to end with newspaper clippings neatly pasted in. There are about 600 papers in each volume, and four columns of clippings, as a rule, upon each page. A written digest, or encyclopedia, as the subject-catalogue is termed, embraces 20 huge volumes of 1,300 pages each, differentiated by red morocco bindings from the brown leather coverings of the tomes which include the record. Four smaller volumes, type-written, are indexes to the encyclopedia, and a fifth is a guide to the indexes. This whole Civil War library, which fills a long and lofty glazed case, carefully kept locked when the contents are not in use, represents the life-work of a single individual, whose only assistance has been in the manual labor of writing.

The individual is John R. Townsend, of New York city, who began his labors as a compiler in 1861, soon after the election of Mr. Lincoln, but without any thought as to the magnitude of his undertaking. He was then a young man, and unfitted for most active pursuits, and being greatly interested in the work, pursued it with unflagging industry day after day. For some years he held a position in the custom-house, but even then his spare hours were devoted to his historical compilation. The work neared completion some years ago, and so great was its value that efforts were made to purchase it for the congressional library, but Congress could not be made to understand its importance. A year or two ago it was purchased by a trustee of Columbia university and presented to that institution. Mr Townsend's labors upon it continued up to November last, at which time he considered it finished, but some newly published matter relating to the Civil War which has been brought forth by the war with Spain will require him to make some additions. Even people of leisure and taste for such occupation will be appalled at the thought of this colossal work, and as a scrap-book history is worth very little unless carefully and thoroughly made, few will care to make it a life-work, and various collections begun here and there will probably soon find their way to the waste-basket.—Indianapolis Journal.

HOW EXHAUSTION COMES.

It is the general impression among athletes that exhaustion and "loss of wind" is due to the inability to consume sufficient oxygen and exhale rapidly enough carbon dioxide. When the muscle is moving rapidly and forcibly it is true that it demands more oxygen and gives off to the blood more carbon dioxide than when at rest. When a man is running as fast as he can make his limbs move he is able to keep up the pace but for a short distance, unless, like the hunted hare, he runs to his death.

On account of the forced, vigorous and rapid muscular action in this case the poisonous materials are thrown into the blood, to be carried to all parts of the body—muscles, nerves, brain. The heart is affected by this poison through the nerve cells controlling that organ. The muscles of respiration are similarly disturbed. The panting, distressed efforts of breathing, sidelong tumbling, anhelation and final semiconsciousness of the hunted stag or hare are a good example of acute auto-intoxication ending in death. This latter deplorable condition is not unknown among the annals of human strife for athletic honors, even with our present advanced knowledge of physiology.—Popular Science Monthly.

AN ANCIENT CITY.

Rome is now in the 2651st year of its historical existence, but this does not include its legendary or mythical existence. The poets look back through legend and myth to the period when Aeneas, wandering to Italy after the fall of Troy, found King Evander ruling a comparatively well regulated state on the Palatine hill.

Nevertheless, the historical age of Rome, dating from Romulus, is quite enough for ordinary purposes.

It is not easy to devise a mode of celebrating such a birthday, and that has been made evident by the various modes in which, throughout the ages, history records that the day has been kept.

Now flags hang from the municipal and governmental buildings, but individuals take little note of the day. The capital bell was rung in the morning.

In ancient days the Romans instituted the feasts known as Follie, described by Ovid in his Fasti.

The ancient Roman Academy of Archaeol-

ogy assembled at the house of Pomponius Letus, on the Esquiline hill, and had a banquet.

In 1842, when the princely families of Rome were still in the heyday of their wealth and influence, Prince Don Marc Antonio Borghese gave a sumptuous feast to the Roman aristocracy at his villa near the Pincian hill. His example was followed in subsequent years by other Roman princes.

In 1844 the Villa Massani, on the Flaminian way, was the scene of the entertainment; in 1845 the Villa Albani; in 1846 the Villa Massimo, at the Gardeus of Sallust, which have now disappeared, being built over.

The minister of public instruction now illuminates the Colosseum with green and white and red Bengal lights, and charges a smart entrance-fee to those who wish to see the show. Strangers and tourists in Rome patronize this exhibition, though to treat the grand old ruin as if it were the final scene in a pantomime does seem a profanation.

During the season in Rome, says the French historian of Rome, Mr. J. J. Ampere, an idle and elegant crowd brings to the Colosseum its frivolous curiosity, its ordered admiration and its phrases culled from books. On certain evenings, when the weather is fine and the moon shines brightly, the Colosseum resembles a salon, and there are nearly as many carriages here as at the entrance to the grand opera.

And again strangers occasionally find amusement in seeing the Colosseum lighted up with Bengal lights. That, says the French historian, closely resembles the finale of a melodrama, and the people might well prefer the radiant sunshine or the subdued light of the moon to this illumination.

Nevertheless, he owns that the first time he saw the Colosseum thus ablaze with crimson fires, its history came vividly before his mind. He recognized that at that moment it appeared in its true color—the color of blood! —Baltimore Sun.

SLEEP-WALKING.

Sleep-walking, or somnambulism, is neither so common nor so entertaining a habit as readers of a certain kind of stories might be induced to believe. It is, as little reflection will convince us, a habit, or we might even say a malady, which exposes its victims to great peril.

The somnambulist is in a condition very similar to that of a hypnotized or mesmerized person. The action of the mind is greatly restricted in that the reasoning faculty is almost completely in abeyance, and everything the person does is purely automatic and performed under the influence of a single idea.

But the very fact that the mind, crippled as its powers are, acts solely in one direction, and is not distracted by external impressions, makes the person's actions more certain than they would be in a waking state. Thus a somnambulist may walk along the edge of a roof with perfect steadiness, while if awake, he would certainly turn dizzy and fall. So, too, in a totally dark room the sleep-walker will often move about without stumbling against chairs or tables, or will seat himself at a desk or stand holding many objects without upsetting one.

Although we do not know with certainty the condition of the brain in somnambulism, observation has taught us to recognize many of the causes which induce it, and so control the habit in great measure. These causes may be mental, such as worry, brooding over one idea, and hard study, especially late at night; or physical, such as late suppers, insufficient exercise and sleeping with the head too low.

Most sleep-walkers are either of a nervous constitution or have received some severe shock, great grief or immoderate joy, which has temporarily disturbed their nervous equilibrium. The young of both sexes are most subject to sleep-walking, and when the habit is formed in youth it is usually outgrown in a few years.

The confirmed somnambulist should avoid all mental and physical causes above mentioned. The bedclothes should be light, the sleeping-room of good size and well ventilated. Much time should be passed in the open air, and overapplication to studies must be carefully avoided.

In obstinate cases the patient should not be left alone at night, and doors and windows should be securely fastened. If he is discovered out of bed he should be gently guided back, and should not be awakened until once more lying down.—Youth's Companion.

HOW TO ROLL AN UMBRELLA.

To know how to roll an umbrella is fast becoming an accomplishment of the fashionable woman as well as the dude, for to be correct one's umbrella must suggest the slenderness and symmetry of a walking-cane. The ribs should be laid flatly against the stick and the points held tightly in place, curving the thumb and forefinger of the right hand about them, while the left hand does the rolling, revolving the umbrella in so doing; the right thumb should be loose enough to permit the revolutions, while still holding down the points.



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HUNTING IN ALASKA.

The danger of getting overheated in a cold climate is well understood by the Indians of Alaska. Mr. E. W. Nelson, of the Biological Survey of the United States Department of Agriculture, explains in the "National Geographic Magazine" how carefully they guard against the danger of freezing to death in consequence of allowing themselves to become too warm.

On the upper Yukon the old method of moose-hunting in early winter was for the Indians to go out on snow-shoes after a heavy snowfall in search of fresh trails. When one was found, the swiftest runner in the party prepared himself to run down the moose. Stripped of all clothing except a shirt and breeches, and carrying a light shotgun loaded with ball, he started off after the animal, while the women and slower runners followed more leisurely.

Sometimes a moose would run eight or ten miles before being overtaken. The runner never stopped until he had overtaken and killed it; and he never stopped then. The cold at that season is very intense. The hunter, heated with his long run, would quickly have frozen to death if he had stopped. For that reason, after having killed the moose, he returned to camp at a run, leaving his followers, who were more thickly clothed and less heated, to cut up the carcass and drag it home.

These Indians on the upper Yukon hunt other animals besides the moose, and some of them are fearless hunters.

Black bears are found in all the land, except in the barren tundras bordering the Arctic coast. They are usually hunted with bows and arrows, but the bravest of the hunters will attack them armed with nothing but a long-bladed knife.

In such a case the hunter wraps a blanket about his left hand and arm, and with it thus protected thrusts it out for the bear to seize as it rises upon its haunches. Under the guard thus afforded the hunter is enabled to make a fatal thrust.

Alaskan hunters need to be bold, for the peninsula boasts of having a species of bear considered to be the largest in the world. The skull of an old male looks as if the creature belonged to the animal life of a former geologic age, when beasts of gigantic size roamed the earth.

COLUMBUS OF THE SKIES.

Lacaille has been justly called the true Columbus of the southern skies. Born near Reims in 1713, and left destitute at an early age, he was educated at the expense of the Duke of Bourbon. Having acquired proficiency in theology, like Laplace he abandoned that profession for the study of science, and by the favor of Cassini became one of the surveyors of the coast from Nantes to Bayonne, and in 1739 took part in the re-measurement of the French arc of the meridian. The perfection with which this work was done secured him admission to the Academy of Sciences and a professorship at the College Mazarin, where he worked energetically in a small observatory fitted up for determining the places of the fixed stars.

While occupied with this work he became impressed with the need of good observations of the stars of the southern hemisphere. Accordingly he proposed an expedition to the Cape of Good Hope, which was officially sanctioned and carried out with marvelous rapidity and success. Landing in April, 1751, at the cape, which was then a mere signal-station for Indian vessels, he secured a location in the wild country near the great Table mountain, and in fourteen months had observed the positions of nearly 10,000 stars with a degree of precision never before attempted in that region of the heavens. The great catalogue which he formed from these observations was published in 1763 and reprinted in 1847 by the British Association for the Advancement of Science, and until within the last twenty years was the chief source of our knowledge of the southern hemisphere.—Professor T. J. J. See, in Atlantic.

JADE.

Jade, the Chinese symbol of the soul, is one of the most interesting minerals in the world. It is possessed of peculiar interest to the mineralogist because of its unique mineral properties; to the chemist because of a dispute as to its elementary composition; to the ethnologist because of its peculiar uses; to the archaeologist because of its strange associations with early history; to the poet because of its symbolic character in literature, and to the philosopher because of its association in the philosophy of the sages, with various virtues out of which grew the Chinese symbolism—the soul.

Jade is best described by the familiar name of pebble, of which it is the finest variety in respect of texture, the heaviest and the hardest known to the lapidary. It is susceptible of a high polish, and is so tenacious that it can be cut into the most intricate and fragile shapes. There are exceptional tints, but here jade may only be said to range in color from ivory-white to deep olive-green. Among substances known to the mineralogist it has no rival in the number of its fascinations, and no apology, therefore, is offered for ranking it with precious stones.—Good Words.

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HOW HIGH IS YOUR CHAIR.

Some curious experiments have been made by a Harvard professor to prove what is really the best height for the chair you sit on and the desk you write at. Every person, it appears, ought to have a chair especially made to suit his or her height, and the seat should be exactly one fourth of your height from the floor. Thus, if you are six feet high the chair-seat should be eighteen inches. The width of the seat should exactly equal its height, and it should slope backward three fourths of an inch to the foot.

The back should be a trifle higher than the seat, and sloped slightly, not too much. Finally, your desk should be two thirds as high again as the seat of your chair. Thus, if your chair-seat is twenty-four inches, the desk should be forty inches in height. When you have attended to all these little details you can sit and write all day without feeling that backache that comes from chairs and desks that don't fit you properly.—Boston Traveler.

DISCOVERY AND FIRST USE OF COAL.

Our anthracite coal-fields were first discovered by a hunter named Nieho Allen, during the time George Washington was president. Allen encamped one night in the Schuylkill regions, kindling his fire upon some black stones. He went to sleep near the fire, and awoke to find himself almost roasted. The stones were on fire, and anthracite was

burning for the first time. A company was organized shortly after this for the purpose of selling this coal, but met with little success. It was taken around to the blacksmiths, but they, not knowing how to use it, would have nothing to do with it. Some of it was shipped to Philadelphia by a Colonel Shoemaker, and sold there. It was so unsatisfactory that a writ was soon gotten out from the city authorities denouncing the colonel as a knave and a scoundrel for trying to impose rocks on them for coal. What changes have been wrought in the past century! Philadelphia owes its growth and progress largely to anthracite coal.

HOW MEN ACT WHEN SHOT.

I saw many men shot. Every one went down in a hump without cries, without jumping up in the air, without throwing up hands. They just went down like clods in the grass. It seemed to me that the terrible thud with which they struck the earth was more penetrating than the sound of guns. Some were only wounded; some were dead.

There is much that is awe-inspiring about the death of soldiers on the battle-field. Almost all of us have seen men or women die, but they have died in their carefully arranged beds, with doctors daintily hoarding the flickering spark, with loved ones clustered about. But death from disease is less awful than death from bullets. On the

battle-field there are no delicate, scientific problems of strange microbes to be solved. There is no petting, no coddling—nothing, nothing but death. The man lives; he is strong, he is vital, every muscle in him is at its fullest tension when, suddenly, "clung" he is dead. That "clung" of the bullets striking the flesh is nearly always plainly audible. But bullets which are killed, so far as I know, do not sing on their way. They go silently, grimly, to their mark, and the man is lacerated and torn or dead. I did not hear the bullet shriek that killed Hamilton Fish; I did not hear the bullets shriek which struck the many others who were wounded while I was near them; I did not hear the bullet shriek which struck me.—From "A Wounded Correspondent's Recollections of Guasimas," by Edward Marshall, in Scribner's.

PRINTING NAMES ON FRUIT.

The rosy cheek of an apple is on the sunny side; the colorless apple grows in the leafy shade. Advantage may be taken of this to have a pleasant surprise for children. A piece of stiff paper placed around an apple in the full sun will shade it, and if the "Mary" or "Bobbie" is cut in the paper so that the sun can color the apple through these stenciled spaces the little one can gather the apple for itself with the name printed on the fruit by Nature herself.—Meehan's Monthly.

Our Household.

LOVE AND PET ME NOW.

Take my withered hands in yours,
Children of my soul.
Mother's heart is craving love,
Mother's growing old.
See the snows of many years
Crowd my furrowed brow.
As I've loved and petted you,
Love and pet me now.

Lay your hands upon my head,
Smooth my white-haired hair,
I've been growing old the while
You've been growing fair.
I have toiled and prayed for you—
Ask not why or how—
As I've loved and petted you,
Love and pet me now.

Take my withered hands in yours,
Children of my heart,
Mothers growing old, your love
Makes of life sweet part.
Touch with love my faded cheek,
Kiss my anxious brow.
As I've loved and petted you,
Love and pet me now.

Take my withered hands in yours,
Hold them close and strong.
Cheer me with a fond caress,
'Twill not be for long.
Youth immortal soon will crown
With its wreath my brow.
As I loved and petted you,
Love and pet me now.

Take my withered hands in yours,
This your heart will prove;
If you owe me anything,
Pay the debt in love.
Press me in your strong young arms,
Breathe a loving vow
That as I loved and petted you
You'll love and pet me now.

—Mrs. R. A. Windsor, in Chicago Standard.

HOME TOPICS.

BAKED APPLES.—There is no more healthful or appetizing mode of preparing apples than by baking. They then have a delicious flavor that is wanting in stewed apples or apple pie—a delicate, aromatic flavor from the skin, which should not be spoiled with spices. Select good-sized, fair apples; with a small knife cut out the blossom-end, wash, and set them in a pie-tin; put a pinch of sugar in the top of each, pour a little hot water in the pan, and bake them in a moderate oven until soft. A few days ago I saw in a paper a chapter on apples, in which it said: "Sour apples should only be used for baking." I wonder if the writer has ever eaten a baked sweet apple, baked slowly, and served with the rich, jellied juice poured over it, and a pitcher of cream from which to help one's self, ad libitum.

APPLE PIES.—Next to baked apples comes apple pies. If you have been in the habit of making them with sugar, spice, flour and water in the pie, and baking them with two crusts, try my way once, and see if you do not like it better. Heap a two-inch-deep granite pie-pan with sliced sour apples—mealy, tart apples do not make a good pie—put on a top crust, and bake until done. Lift the crust off, lay it on a plate, top side

ing—yellow in the wall-paper, gilt picture-molding, natural yellow pine finishing, or if the woodwork must be painted, have it cream-white, with a line of gilt. Yellow bows, yellow cushions and yellow tints in the rugs or carpet all help to brighten a north room and make it look more cheerful. A pretty table-cover to use in this room is of white linen embroidered in nasturtiums. Have the colors of the flowers range from pale yellow through orange to the deep reds that nasturtiums flaunt so often. The leaves, stems and buds should be in the natural shades of green as near as may be. These embroidered linens launder well when wash-silks are used, and with a little care come out looking as dainty and fresh as ever. The edges of the cover may be buttonhole-stitched in scallops or finished with a moderately wide hemstitched hem. A design of nasturtiums in the corners and a few scattering leaves and blossoms along the sides make a very pretty cover.

MAIDA McL.

DOILIES WITH TATTED BORDERS.

Use either No. 50 or No. 60 thread.

To make the bars of the first one use a shuttle and an extra spool of thread; with the shuttle-thread make a ring of five doubles, five picots separated by three doubles, five doubles; close the ring. With the spool-thread make a scallop of three doubles, five picots separated by two doubles, three doubles. Continue until you have five rings and four scallops for one side; at the end make a scallop of three doubles, ten picots separated by two doubles, three doubles. Make the other side like this one, and join the rings to the corresponding ones on the opposite side at their center picots. Then make a scallop at the second end of bar thus: Four doubles, eleven picots separated by two doubles, four doubles, and fasten to first ring made. Cut thread. These large scallops at this end of the bars are to be fastened to the circle of cloth. The other bar is like this one, only that it has one ring and one scallop less at the sides. Join the bars by the center picots of two scallops at lower end of the bars.

The wheels of second one are made thus: For center ring make eleven picots with one double between each picot; close ring. Leave about one fourth of an inch of thread, and make a ring of four doubles, seven picots separated by two doubles, four doubles, close; fasten to first picot of center ring, make ten more rings, tie, and cut thread. Join the wheels by the center picot of two of the rings of preceding wheel, always leaving four rings on one side of the wheel unjoined and three on the other; this gives the needed curve. Carefully baste the tatting onto small circles of linen, buttonhole around the inner edge with silk or linen floss, using one long and two short stitches, and catch all picots of the tatting. Lay that side of the wheels having three unjoined rings next to the linen, as seen in the illustration. Cut the cloth carefully from beneath, leaving a little, which with a fine needle and thread fasten down around the edge as neatly as possible. Fold a piece of flannel two or three times, spread a cotton cloth over it, lay the doily right side down on this, and with a damp cloth on the wrong side press it well. These borders are easily and quickly



in the household, and this knowledge was given them by the Indians and Mexicans.

The shrub from which the bark is cut looks very much like the yucca-plant, familiarly known as Adam's needle. And it is from the root of this shrub that the soap-bark of the commercial world is obtained. It grows wild and abundantly in the lower part of the state of Colorado, in New Mexico and in some parts of California. The Indians and Mexicans use it there for almost every purpose as we do soap. They just cut the plant down, dig up the root, and after chopping this into small pieces, keep it for use in the family. On using it they never boil it as we do, but simply put it in cold water and make a thick lather with the hands. A small quantity of this bark in water soon makes a whole tubful of lather. After this is done hot water is poured in until the whole is moderately warm. They now wash any material in this—wool, cotton or silk—first wringing it out, letting it dry, and then shaking the soap-bark, or amole, as they call it, from the fabric. The Mexicans and Indian women use it always for washing their blankets, which are the most important articles among their few possessions. And then again it is this same amole, or soap-bark, with which they invariably wash their luxuriant hair. We all know what abundant hair these people have, consequently Nature's own cleanser must be better than the artificialities of man. While the hair is drying the small particles of bark shake out very easily from it, and do not remain, as you might suppose.

As the bark makes a perfectly white lather when not boiled, the most delicate colors can be washed in it without injury, white becoming also spotless again, and laces washing beautifully in it. Woolen and silken goods become like new once more, and can be washed successfully without ripping up. But wishing to change

the style of the garment, it is always best to rip before washing.

Our old way was to boil and boil the bark, the particles getting over everything, while the water in which it was boiled became black; then the lather could only be used for washing dark material. Making the lather without boiling is the only right way. The bark as we see it when purchased from the stores is very fine, practically cut into splinters; but the western people use it in much larger pieces when they themselves cut it from the root of the shrub. The dealers must make a large profit on the bark, only selling a very small quantity for five cents in our southern states, though this is enough for washing one or two garments. In the West it is cheaper than soap. M. S.

KNIT TUMBLER-DOILY.

ABBREVIATIONS:—K, knit; o, over; p, pearl; tog, together; s, slip; b, bind; n, narrow.

Cast on twenty-five stitches; turn.

First row—K 20, o 2, p 2 tog, k 1, o, k 2.

Second row—K 4, o 2, p 2 tog, k 19, leave one stitch on needle and turn work.

Third row—S 1, k 14, n, o, k 2, o 2, p 2 tog, k 2, o, k 2.

Fourth row—K 5, o 2, p 2 tog, k 18, leave 2.

Fifth row—S 1, k 12, n, o, k 3, o 2, p 2 tog, k 1, o, k 2, o, k 2.

Sixth row—K 7, o 2, p 2 tog, k 17, leave 3.

Seventh row—S 1, k 10, n, o, k 4, o 2, p 2 tog, k 7.

Eighth row—B off 4, k 2, o 2, p 2 tog, k 16, leave 4.

Ninth row—S 1, k 8, n, o, k 5, o 2, p 2 tog, k 1, o, k 2.

Tenth row—K 4, o 2, p 2 tog, k 15, leave 5.

Eleventh row—S 1, k 6, n, o, k 6, o 2, p 2 tog, k 2, o, k 2.

Twelfth row—K 5, o 2, p 2 tog, k 14, leave 6.

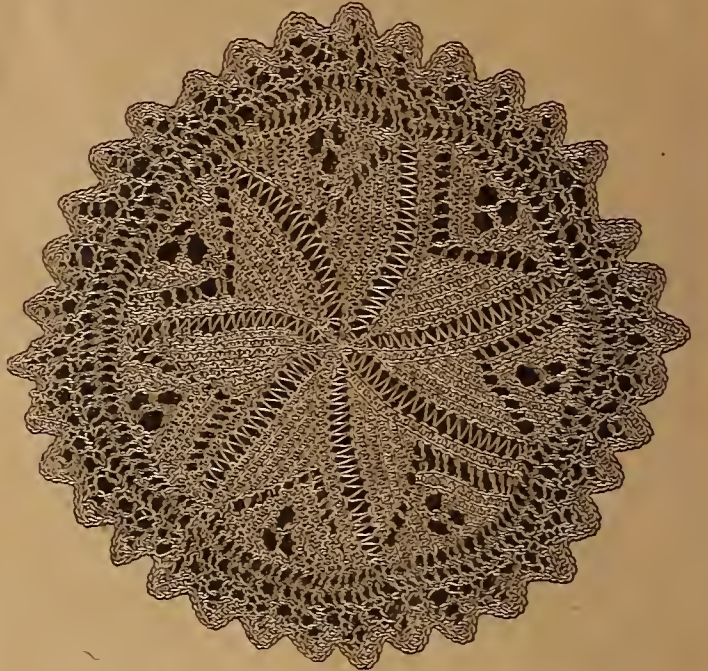
Thirteenth row—S 1, k 4, n, o, k 3, n, o 2, n, o 2, p 2 tog, k 1, o, k 2, o, k 2.

Fourteenth row—K 7, o 2, p 2 tog, k 2, p 1, k 10, leave 7.

Fifteenth row—S 1, k 2, n, o, k 2, n, o 2, n, k 2, o 2, p 2 tog, k 7.

Sixteenth row—B 4, k 2, o 2, p 2 tog, k 4, p 1, k 7, leave 8.

Seventeenth row—S 1, k 3, o, n, k 2, n, o 2, n, o 2, p 2 tog, k 1, o, k 2.



Eighteenth row—K 4, o 2, p 2 tog, k 2, p 1, k 8, leave 9.

Nineteenth row—S 1, k 3, o, n, k 5, o 2, p 2 tog, k 2, o, k 2.

Twentieth row—K 5, o 2, p 2 tog, k 10, leave 10.

Twenty-first row—S 1, k 3, o, n, k 4, o 2, p 2 tog, k 1, o, k 2, o, k 2.

Twenty-second row—K 7, o 2, p 2 tog, k 9, leave 11.

Twenty-third row—S 1, k 3, o, n, k 3, o 2, p 2 tog, k 7.

Twenty-fourth row—B 4, k 2, o 2, p 2 tog, k 8, leave 12.

Twenty-fifth row—S 1, k 3, o, n, k 2, o 2, p 2 tog, k 1, o, k 2.

Twenty-sixth row—K 4, o 2, p 2 tog, k 7, leave 13.

Twenty-seventh row—S 1, k 3, o, n, k 1, o 2, p 2 tog, k 2, o, k 2.

Twenty-eighth row—K 5, o 2, p 2 tog, k 6, leave 14.

Twenty-ninth row—S 1, k 5, o 2, p 2 tog, k 1, o, k 2, o, k 2.

Thirtieth row—K 7, o 2, p 2 tog, k 5, leave 15.

Thirty-first row—S 1, k 4, o 2, p 2 tog, k 7.

Thirty-second row—B 4, k 2, o 2, p 2 tog, k 4, leave 16.

Thirty-third row—S 1, k 3, o 2, p 2 tog, k 1, o, k 2.

Thirty-fourth row—K 4, o 2, p 2 tog, k 3, leave 17.

Thirty-fifth row—S 1, k 2, o 2, p 2 tog, k 2, o, k 2.

Thirty-sixth row—K 5, o 2, p 2 tog, k 2, leave 18.

Thirty-seventh row—S 1, k 1, o 2, p 2 tog, k 1, o, k 2, o, k 2.

Thirty-eighth row—K 7, o 2, p 2 tog, k 1, leave 19.

Thirty-ninth row—S 1, o 2, p 2 tog, k 7.

Fortieth row—B 4, k 2, o 2, p 2 tog, k 20.

This finishes one gore. Repeat pattern until seven gores are completed, bind off very loosely and sew the edges together.

MRS. M. R. WHITNEY.

MUCH IN LITTLE.

The following newspaper squib manages to convey quite a cargo of information about the Philippine islands, though it is rather too closely packed:

No brooms.

No hats worn.

Girls marry at fifteen.

No knives or forks.

They sleep at midday.

Horses are a curiosity.

More women than men.

Rice is the chief product.

Cattle as small as goats.

Manila enjoys electricity.

Natives bathe thrice daily.

The grasshopper is a delicacy.

We buy half Manila's hemp.

Laborers earn ten cents a day.

Cocanut-oil is an illuminant.

Manila was founded in 1571.

Jayne's Expectant will cure the worst colds; but that is no reason for letting a slight cold run on. The safest plan is to use the remedy now.



down, add sugar and butter to the apples in the pan, stir them, and spread them over the crust, then dust over a little cinnamon or allspice. I sometimes bake a pie with two crusts, but never put anything but the apples into it; then when it is done lift off the top crust and add sugar, butter and spices. But I prefer the English pie with only one crust.

NORTH ROOMS.—If you would have your north rooms look sunshiny and cheerful use plenty of yellow in decorations and furnish-

ly made, and a set of these doilies look very pretty indeed.

MRS. J. R. MACKINTOSH.

SOAP-BARK AND ITS VALUABLENESS IN THE HOUSEHOLD.

From the time of our grandmothers we have known of soap-bark in our southern homes, but only to be used in the wrong way. Our western women understand the right way of using it and of its valuable-

DON'T SEND MY BOY WHERE YOUR GIRL CAN'T GO.

Don't send my boy where your girl can't go. And say, "There's no danger for boys, you know."

Because they all have their wild oats to sow."

There is no more excuse for my boy to be low than your girl. Then please do not tell him so.

This world's old lie is a boy's worst foe—To hell or the kingdom they each must go.

Don't send my boy where your girl can't go; For a boy or a girl sin is sin, you know;

And my baby boy's hands are as clean and white,

And his heart is as pure as your girl's to-night.

That which sends a girl to the pits of hell Will send the soul of my boy there as well.

—Woman's Voice.

NEW WAYS OF SERVING PEACHES.

PEACH PIE.—Pare and halve enough ripe peaches to fill a deep pie-plate; make a rich simple syrup, pour it over the fruit cold, unless the latter is rather hard, and let it stand one hour. Line a deep pie-plate with rich pastry, brush it over with white of egg, and bake. Make a meringue of the whites of four eggs and two tablespoonfuls of sugar flavored with almond extract; fill the shell with the fruit, heap the meringue in mound shape over the top, and insert a row of blanched peach-almonds two thirds of the distance between the center and edge, arranging them regularly and in pairs, so that two come in each section as the pie is served; sift powdered sugar over the top, and return to the oven long enough to yellow slightly. Serve very cold.

FROZEN PEACHES.—Pare six large ripe peaches, and cut into small bits with a silver knife. Soak one tablespoonful of gelatin in half a cupful of cold water. Chop four peach-kernels, cover with cold water, simmer fifteen minutes, and strain. Add enough water to the strained liquid to make a pint, put over the fire with two cupfuls of granulated sugar, and boil five minutes; add the gelatin, stir until dissolved, strain over the peaches, and stir well together. When cold, freeze, stirring very slowly. When frozen, remove the dasher, stir in two cupfuls of cream, whipped, repack, cover, and let ripen one, or, better yet, two hours. This is delicious to serve with cake at warm-weather evening entertainments.

CANDIED PEACHES.—The fruit must be ripe, but not in the least bruised, and only a little softened. Great care must be taken not to overcook or break in handling. Pare, halve and remove the pits. Boil four cupfuls of granulated sugar and one cupful of water until it spins a thread. Use a shallow granite-ware pan for cooking; spread a layer of fruit, cut side upward, over the bottom, cover with syrup, and stew gently until it can be pierced with a fork. Skim the fruit out onto a platter, and when all has been cooked, pour the syrup over and set aside until next day. Drain the fruit from the syrup, bring the latter to a boil, dip hot over the fruit, and let stand another twenty-four hours. Spread the fruit on a wire sieve to drain and harden, turn often, and when well candied pack between sheets of paraffin-paper and keep in a cool place.

PEACH SALAD.—A well-made peach salad is as handsome as appetizing. To be perfect, however, the fruit, dressing and dishes must be kept on ice until the minute they are needed. Pare, halve and remove the pits from well-ripened peaches, and arrange them in a bowl, cut side upward, on a thick bed of nasturtium-leaves. For the dressing melt a glassful of red currant jelly in a double boiler, add five tablespoonfuls of water, one half a teaspoonful of ground mace and a pinch of white ginger. Pour the dressing over the fruit as it goes to the table.

PEACH AND APPLE MARMALADE.—Select ripe yellow peaches and Red Astrachan or any other ripe tart apples, allowing two measures of the former to one of the latter. Pare and halve the peaches, remove the pits from half the kernels, chop fine, cover with cold water, and simmer; put the peaches in a stone crock, cover to one third their depth with water, cover the vessel closely, and bake in a hot oven until tender. Wash the apples, cut out the blossom-ends and black spots, halve, and bake same as peaches. From this point proceed same as with plums and crab-apples, allowing only three fourths of a pound of sugar to every pound of fruit pulp and juice, and adding the strained liquid from the pits to the pulp when it is put over the fire. If the compound is not firm enough at the expiration of thirty minutes continue the boiling until it is.

LAYER JELLY.—Fruit jellies of different color or of several shades of one color are precisely as pretty molded in layers as the similarly made forms of gelatin jelly that forms the basis of so many delicious desserts and party dishes; and while they necessitate more labor they are not more difficult to make than plain ones. Green grapes, preferably the wild variety, yellow crab-apples and red plum jelly, arranged in the order named, make a handsome color combination; so does yellow crab-apple, red crab-apple and red plum; or quince jelly, made of pared and cored fruit that have both skins and seeds cooked in, and cranberries, or a combination of these and tart red apples.

K. B. J.

UNION STAR AND STRIPE AND DEWEY BLOCK.

These two blocks may be used for a patchwork quilt, using the blocks alternately, or for many articles of fancy work. Red, white and blue are the chosen colors, as they are a favorite choice of colors at present, and also appropriate colors for the designs. Of course, other colors may be used, if preferred.

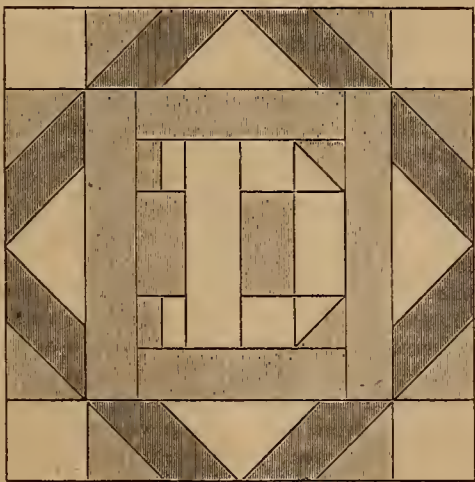
In this design the star is made of white on a blue background, the corner squares



are blue, the half squares are all white, and the diamond-shaped ones red.

In the Dewey block the D is white on a blue background, the half squares around it are white, also the squares in the corners, and the half squares that join it are blue, diamonds red.

For a quilt, sixteen large blocks and a border of red or blue would be pretty. For the work I would use Turkey-red and indigo-blue print and bleached cloth; for a hammock



pillow use red and blue denim and white drill or the colored linens—one block, or four, two of each kind. A block of either design might be used for a pincushion, using silk or velvet for the design. Many other uses will suggest themselves to an ingenious person.

ALLIE L. NAY.

GREEN TOMATOES.

There seems to be a common difficulty among housekeepers. There is probably more than one. I have in mind, however, simply the trouble that arises at intervals throughout the twelve months of not knowing what to get to vary the daily bill of fare a little.

Have you ever used green tomatoes in any other way than for sweet pickles and chowchow? If not, you may be glad to hear from me on the subject.

Cooked just as you would ripe ones green tomatoes are very appetizing. I know one lady who cans them so as to have a variety for winter use, especially when her tomatoes are late and she can not otherwise save them all. Stewed or fried with onions they are very nice. I like them so better than in any other way. Sliced crosswise—parallel to the stem-end—rolled in flour, and fried on a pancake-griddle or common skillet, like apples or potatoes, is another way to cook them. I have tried them so for supper when

I wanted something hot and could think of nothing nice and easy.

My mother used to make green-tomato pies with two crusts as you would apple pies, with a bit of butter, a sprinkle of flour and sugar to taste; spices, too, if you wish. She was very fond of them.

Tastes differ so much that each must use her own judgment or consult the taste of those for whom she is preparing them, in this as in other cooking. Some season them with pepper and salt only—"one of whom I am which," as the old lady said, when she wished to be very precise in her statement—but my husband always adds sugar to his share.

GAZELLE STEVENS SHARP.

BLACKBERRIES.

BLACKBERRY EXTRACT.—This extract can be easily prepared by any one who will closely adhere to the following directions: Weigh out exactly one pound of blackberries, and place in a preserve-jar. Care must be taken that they are ripe, juicy and of the best flavor. Over this mass pour six ounces of ninety-five-per-cent alcohol. Now seal the jar as in preserving. Let the jar stand two days, or, better still, three. Shake well three or four times each day. On the second or third day unseal the jar and put the contents into a muslin strainer. Strain carefully until all the fluid has strained through. Next gradually pass water through the strainer, letting it trickle through the fruit pulp until an exact pint of extract has been obtained. If these directions are implicitly followed failure is impossible. The extract, if kept tightly stoppered, will remain good the year round.

BLACKBERRY SYRUP.—To one pint of juice put one pound of white sugar, one half ounce of powdered cinnamon, one fourth ounce of mace and two teaspoonfuls of cloves; boil all together for a quarter of an hour, then strain the syrup, and add to each pint a glassful of French brandy.

BLACKBERRY JELLY.—For each pound of fruit allow one pound of the finest white sugar. Mash the fruit and sugar well in a preserving-kettle, let stand on the stove half an hour, then strain, and boil until it jellies.

BLACKBERRY JAM.—To each pound of fruit add three fourths of a pound of sugar; mash each separately, then put together, and boil from one half to three fourths of an hour.

MRS. WOOD.

THE DAMSON PLUM.

The best spiced fruit is made from the Damson plum. Its richness makes it susceptible to many combinations. Simply canned and used in the winter with one third stewed prunes no more delightful sauce can be imagined for a winter night's supper. Removing the seeds and using the plums with one half good apples, and cooked for an hour, stirring constantly after the sugar is in, makes a very nice marmalade.

Some families must have "spreads" of various kinds, and in this way butter is saved; and with children much of the fruit is eaten which otherwise would not be touched. To make a good relish to eat with meat use the following recipe:

Remove the stems and prick each plum in two or three places with a needle. Weigh them, allowing half as much sugar as fruit, and to ten pounds of fruit one quart of vinegar, one ounce of whole cinnamon and one half ounce of whole cloves tied up in muslin. Put all together, let the plums just get tender, then lift out into your jars, and pour the hot spiced vinegar over them. These should keep unsealed in a cool place, but I always seal everything to be sure they will keep.

Good plum butter can be made by removing all the seeds and putting the pulp through a sieve. A variety can be made by making some with apples, some with grapes and some with elderberries. If you have a good deal of juice, pour it off to make jelly. We never can tell what will fail us in winter-time, and if you have fruit it is better to store at least part of it.

B. K.

"It is not a year since I was here," writes Mr. S. B. Robinson, from Winfield, Kansas, "and took a lot of Peerless Atlas orders, you remember, with WOMAN'S HOME COMPANION; and three other men have been here since, and took a lot more. Yet I am having a good trade. The new Alaska and Klondike map and official history interests everybody. You did a good thing for agents, as well as the public, when you added this feature to Peerless Atlas." Mr. Robinson has sent us over three thousand orders for Peerless Atlas combinations since the first day of last March.

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Our Household.

A CHAPTER ON PICKLES.

A GENERAL rule for sweet pickles is to seven pounds of the fruit add three pounds of sugar and one pint of vinegar. Spices to taste.

MELON SWEET PICKLES.—Cantaloupes are steadily growing in favor all over the country. One reason, I think, is because of their adaptability to various soils and uses. They make most delicious pickles, if one only understands the art.

Cut into square or oblong pieces, then remove the rind and soft portion which adheres to the seeds. If you have ten pounds of the prepared melon you will need five pounds of sugar, one teaspoonful of cloves, (ground), one teaspoonful of mace and two teaspoonfuls each of ginger, allspice and cinnamon. Make a syrup of the vinegar and sugar, adding the spices, which have been mixed in a bowl, then put in a cheese-cloth bag, by dropping in when the syrup has boiled for five minutes.

With the utmost care drop the pieces of melon into the boiling syrup, and cook until they can be easily pierced with a toothpick, or, better still, a silver nut-pick. With a skimmer remove the pieces from the syrup, placing tenderly in an earthen jar. Boil down the syrup, then pour over the cantaloupes, and allow to remain over night. In the morning pour off the liquor, and boil once more. Repeat this process for five mornings. The last time heat all together, then put in jars, and seal.

Watermelon pickles are most excellent made in the same manner, only that they are better if allowed to stand with a little salt on them for an hour or two, then washed, and boiled in clear water until tender before putting in the boiling vinegar syrup.

CUCUMBER PICKLES.—Do not be afraid of getting too many of these, they will all be eaten. One hundred and fifty or more of the tiny ones will be a very moderate supply for a large family. Wipe each one, put all together in a large stone jar, and cover with water to which has been added one tablespoonful of salt. In the morning pour off the water and supply its place with boiling hot vinegar in which are to be found one ounce of whole cloves, three fourths of an ounce of allspice, a piece of alum the size of a small walnut and a few green peppers. Cabbage-leaves will make an excellent cover for these pickles.

PICKLED ONIONS.—Small white onions make such very nice pickles. They are easily prepared, requiring only to have boiling brine poured over them four days in succession, when they are drained and placed in jars, then covered with vinegar.

MIXED PICKLES.—Take five heads of cabbage, one scant peck of green tomatoes, one half peck of ripe ones, ten large cucumbers, ten or twelve green mango-peppers, an equal number of red peppers, five onions and fourteen small bunches of celery (a smaller amount will do). Chop each of these ingredients, put salt over each, and allow to stand over night. If the peppers and onions are mixed before the salt is sprinkled over them I think the flavor is improved. In the morning drain off all the water, and mix all, then add two pounds of dark-brown sugar. With a very large spoon or with your hands mix this sugar thoroughly through the prospective pickles before adding the following: Three or four (according to taste) tablespoonfuls of grated horse-radish, two teaspoonfuls of white mustard-seed, one ounce of turmeric and one tablespoonful each of ground cinnamon and allspice. After mixing all thoroughly, can, and seal.

CATCHUP.—Tomato catchup is the real stand-by, but many people prefer grape, at least for a change. To five and one half pounds of grapes, which have been cooked and rubbed through a strainer, add one pint of vinegar, three scant pounds of sugar, one tablespoonful of allspice, one teaspoonful each of cloves, cinnamon and pepper, and a pinch of salt. Boil all until as thick as you desire it to be.

Tomato catchup is made in much the same way, only more spices are used. If you have two gallons of stewed tomatoes you will need one half pound of salt and one half ounce each of garlic and red pepper; some add the same amount of pimento. Then you will also need one ounce of cloves and ginger-root. Put into a preserving-kettle, cook thoroughly, strain into bottles, and seal with wax.

A good wax is made as follows: Two ounces of resin and four ounces of beeswax must be melted together on the back of the

stove. Stir often. After putting the corks in the hottles and pressing firmly, invert the top of the bottle in the hot liquid.

PICKLED PEARS.—Three pounds of Bartlett pears, not quite ripe. Peel them with a very thin, sharp knife, cut out the blossom-end, but allow the stem to remain. Then put them in the preserving-kettle, and boil until tender. After straining the water add to it one pint of vinegar and three teacupfuls of sugar, whole cloves, stick cinnamon, allspice, mace and race-ginger. Boil for twenty minutes, skimming often, then put in the pears, and boil again for five minutes. Take them out carefully into a jar, and boil the syrup until it thickens; pour it over, and cover. The next day again boil down the syrup, though they are fine if sealed the first day, and add the pears just long enough to be heated through, place all in jars, and seal. They will keep in a stone jar with a plate and slight weight on it to keep the fruit under the vinegar. Other fruit may be treated in the same manner.

SPICED GRAPES.—Select bunches of the finest grapes that can be obtained, those not too ripe and which have no bruised ones among them. To every pound of these allow a generous pound of sugar. The syrup necessary for these should be in the proportion of four pounds of sugar to one pint of vinegar, two teaspoonfuls of cinnamon and allspice, one teaspoonful of cloves, one half teaspoonful of mace and the same amount of salt. When this syrup is boiling, very carefully drop in the bunches of grapes; let them boil for five minutes, then lift them out carefully, and further boil down the syrup, pouring it over when ready. The next morning pour off this syrup again and once more boil down, then pour over the grapes. Repeat this process for several mornings, when they are ready to can. They will be so rich that they can be kept in a jar over which paraffin-paper has been tightly stretched.

GREEN-TOMATO PICKLE.—One gallon of chopped green tomatoes are necessary to begin with; over these sprinkle one cupful of salt; let stand over night, in the morning drain perfectly dry, and add one teaspoonful each of celery-seed, cloves, mustard-seed, and a few pieces of cinnamon-bark, pour on a sufficient amount of good cider vinegar to cover, and boil the whole for fifteen minutes. Sugar may be added, if desired, although I prefer the following if I want them sweet:

SWEET TOMATO PICKLE.—Either ripe or green tomatoes can be used. Six pounds, sliced (if ripe, peel first), three pounds of sugar, one half ounce of cinnamon, almost the same amount of mace, one ounce of cloves and one quart of vinegar. After mixing all boil briskly for fifteen minutes, then simmer slowly for three fourths of an hour.

ELLA BARTLETT SIMMONS.

AN EASY WAY TO MAKE JELLY.

For making grape jelly or jelly from any juicy fruit the following will be found a very safe and absolutely reliable rule:

For convenience I will call this a rule for grape jelly. Take the grapes from the stem; overripe fruit should always be avoided in jelly-making. After stemming the grapes wash them in a colander, if they need it, and let drain a few minutes, then put them into a granite kettle, or, lacking this, into a crock, and put the crock into a kettle of boiling water. If the granite kettle is used, put this on the back part of the range or where the fire is not too hot; use no water. After a little while the juice will ooze from the grapes, and this will make moisture enough to keep from burning. Until the moisture or juice has begun to ooze out keep the fruit where it is not too hot. After juice enough has come out to render it feasible, they may be put over a greater heat, if one is hurried.

I find the asbestos mats almost invaluable in many ways. If a mat of this kind is placed under a cooking utensil on top of the stove things cannot burn.

When the grapes are pretty well heated through you may stir them and crush some with a wooden spoon. When most of them seem broken and hot enough to extract the juice, put the fruit into a woolen bag, and let the juice drain through this.

If you want your jelly very clear do not press the bag; but if you want as much jelly as can be made from the amount of fruit used, you may squeeze and press the juice out. The jelly will taste just as well and is just as nice for cakes and things of that kind, but not quite as translucent and attractive for turning out in molds.

When the juice is ready, measure it and



Men who are always in a hurry, and most men are, want a soap for the toilet that will lather quickly and freely in hot or cold water. Other soaps than Ivory may have this quality, but will likely contain alkali, which is injurious to the skin. Ivory Soap is made of pure vegetable oils, no alkali; produces a white, foamy lather, that cleanses thoroughly and rinses easily and quickly. Money cannot buy a better soap for the toilet.

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place over the fire. Measure out the same quantity of granulated sugar, and place this in pans and put in the oven to heat. The oven should not be very hot, or the sugar may scorch. It should simply heat well through without scorching or melting. If, however, you find that some of it has done this, it will do no very great harm, for you will want to strain the jelly through a clean flannel bag into the jelly-glasses, and all the lumps will drain out.

Let the grape-juice boil just twenty minutes after it comes to a boil, then add the hot sugar; it will hiss as it touches the hot juice, and will require but a moment to dissolve in the boiling liquid. Just let the jelly boil up and it will be quite ready for the glasses. There need be no testing. It never fails unless the fruit is overripe. Strain into glasses or molds, and set aside to cool. Fill vessels very full, as it will settle quite a little while cooling. When quite cold cover with tissue-paper and then with the jelly-cup covers, or if you have used tumblers, bowls, etc., cover with paper, and paste this down. Keep in a dry place.

ROSE SEELYE MILLER.

WHOLESOME PEACH PIES.

Maybe "there is no good and sufficient reason for ever putting peaches inside of pie-crust," but just so long as a well-made peach pie is delicious they will run the blockade and get there despite the batteries of hygienists and dyspeptics, and the commissary general in most households had better accept the fact philosophically and learn better marksmanship.

Pie-crust that is made of pure cottolene, or equal parts of sweet butter and lard, in the proportion of one part shortening to three parts flour, and the same amount of water as shortening, is not more indigestible than three fourths of the food we consume—if half a teaspoonful of baking-powder is added to every cupful of flour, and flour, shortening and water are ice-cold and made into paste with the least possible handling, baked in a hot oven at first, and then eaten before the crust becomes sodden.

PEACH-CUSTARD PIE.—Put two cupfuls of milk and a pinch of salt in a farina-boiler, and when scalding-hot add the well-beaten yolks of three eggs and three tablespoonfuls of sugar; stir five minutes, and remove from the fire. Pare, halve and cut through the center, crosswise, half a dozen ripe soft peaches; chop four of the kernels fine, cover

with cold water, and simmer fifteen minutes; strain, add half a cupful of sugar to the liquor, and boil ten minutes; set aside to cool, and pour over the peaches. Line a deep pie-plate with pastry made as above directed, brush over the top with white of egg, and bake. Lay the peaches regularly in the shell, pour the syrup in the custard, stir, and pour over the fruit, spreading evenly. Make a stiff meringue of the whites of three eggs and two tablespoonfuls of powdered sugar, and flavor with almond extract; wet a tablespoon in cold water, cut regular-sized islands of the meringue, place one in the center of the pie and in a row around it so spaced as to bring one in each section of pie; sift a tablespoonful of powdered sugar over the top, and set in a slow oven long enough to stiffen.

PEACH PIE WITH CREAM—No. 1.—Prepare the fruit as above, but in larger quantity and more syrup. Bake shell; set both shell, fruit and cream on ice until a few minutes before it is needed; fill shell with fruit, pour syrup over, and heap sweetened whipped cream over the top.

PEACH PIE WITH CREAM—No. 2.—Pare, quarter and pit enough ripe peaches to fill a deep pie-plate heaping full. Spread half a cupful of granulated sugar over the bottom of the plate, fill with fruit, sprinkle as much more sugar over the top, add two tablespoonfuls of water and half a teaspoonful of vanilla, or not, as preferred, and cover with pastry rolled one third of an inch thick; cut a small piece out of the center, insert a funnel-shaped tube of white paper, sift one tablespoonful of powdered sugar over the pastry, and bake. When cold and needed run a knife around the sides to loosen the top, deftly invert onto a serving-plate, and pile whipped cream over the top.

TWO-CRUST PEACH PIE.—Pare, halve and cut through the center, crosswise, enough ripe peaches to fill the pie-plate. Chop two thirds of the kernels, cover with cold water, simmer fifteen minutes, and strain; add enough water to make half a cupful, and one cupful of granulated sugar; boil ten minutes, and when cold pour over the fruit. Make the pastry as directed, line a deep plate, brush the white of an egg over the top, fill with fruit and syrup, cover with pastry rolled thin and laid loosely over the fruit, pinch the edges together closely, insert a paper tube as directed above, sift sugar over the top, and bake. Serve cold or slightly warm, as preferred.

KATHERINE B. JOHNSON.

Our Sunday Afternoon.

I SHALL GO SOFTLY ALL MY YEARS.
(Isalah xxxviii. 15.)

"I shall go softly," since I've found
Not as prophet bathed in tears,
And in deep bitterness of soul,
For God hath healed my heavy dole,
Hath stilled my pain and dried my tears,
And given faith for foolish fears.

"I shall go softly," since I've found
The mighty arm that girds me round
Is gentle as it's sure and strong;
"I shall go softly through the throng,
And with compulsion calm and sweet,
Lead sinners to the Savior's feet."

How sternly paced those patient feet,
Along Capernaum's marble street;
How softly and how tenderly,
Their echoes from Gethsemane,
Steal down the ages, rich to bless
All time with deathless happiness.

Into my heart those echoes steal,
Until I cannot choose but kneel—
Not weak and worn, with vigor spent,
But joyous and in glad content—
And kneeling pray to him who hears,
To lead me softly all my years.
—Ethelbert D. Warfield, in The Independent.

AMERICAN BRAIN AND BRAWN.

THERE is not much about a war that is not terrible or sad; but one absolutely delightful feature of our struggle with Spain is the perfect assurance of victory that has filled every American breast and animated every American utterance from the beginning. Spanish ships and Spanish soldiers may outnumber ours; we have rested confident in the superior intelligence, courage and zeal of our troops and our sailors. Out of whatever difficulty we have been sure that American ingenuity would find a way. Against whatever reverses we have been certain that American pluck would hold itself resolute. "It is only a question of time," we have said, "and of a short time at that."

And this has not been an empty boast. It would have been pitiable if that had been the case. But back of our confidence stands a century and more of tenacious battling with all kinds of obstacles that can toughen and develop a people, and, notwithstanding our mistakes, we know that we have won from the hard school of necessity both stout muscles and keen minds. That we have never yet failed is not because we have seldom undertaken great achievements. It has been a magnificent succession of victories that has erased from our dictionaries the word "defeat."

There is the greatest danger that this well-justified confidence may pass into braggadocio. We need to remind ourselves continually that the battle is not to the strong, that there is a God of battles who alone decides the fate of nations. We need to say over and over to ourselves the warning of Rudyard Kipling, "Lest we forget! lest we forget!" But this danger and this need attend all noble accomplishment, whatever it may be; and the possibility of pride must not hold us from proud achievement. It is well that along all our city streets Old Glory has been flung out, such a blossoming of national colors as this country has not seen for decades. The price of American flags is double what it was before the war had stirred our patriotism. If ever war was Christian, if ever war was unselfish, this is an unselfish, Christian war. We have a right to be proud of the nation that so generously is waging it, and of that flag which more than ever before means safety and honor and freedom.—Christian Endeavor World.

STORY OF THE ORIENT.

An eastern king was once in need of a faithful servant and friend. He gave notice that he wanted a man to do a day's work, and two men came and asked to be employed. He engaged them both for certain fixed wages, and set them to work to fill a basket with water from a neighboring well, saying that he would come in the evening and see their work. He then left them to themselves and went away. After putting in one or two bucketfuls, one of the men said:

"What is the good of doing this useless work? As soon as you put the water in on one side it runs out on the other."
The other man answered:
"But we have our day's wages, haven't we? The use of the work is the master's business, not ours."
"I am not going to do such fool's work,"

replied the other; and throwing down his bucket he went away.

The other man continued his work till about sunset; he exhausted the well. Looking down into it he saw something shining at the bottom. He let down his bucket once more and drew up a precious diamond ring.

"Now I see the use of pouring water into a basket," he exclaimed to himself. "If the bucket had brought up the ring before the well was dry it would have been found in the basket. The labor was not useless, after all."

But he had yet to learn why the king had ordered this apparently useless task. It was to test his capacity for perfect obedience, without which no servant is reliable.

At this moment the king came up to him, and as he bade the man keep the ring, he said:

"Thou hast been faithful in a little thing; now I can trust thee in great things. Henceforth thou shalt stand at my hand."—The Sunday Hour.

PRAYERS THAT HELP.

"Once upon a time sickness came to the family of the poorly clad pastor of a country church. It was winter, and the pastor was in financial straits. A number of his flock decided to meet at his house and offer prayers for the speedy recovery of the sick ones and for material blessing upon the pastor's family. While one of the deacons was offering a fervent prayer for blessings upon the pastor's family there was a loud knock on the door. When the door was opened a stout farmer boy was seen, wrapped up comfortably. "What do you want, boy?" asked one of the elders. "I've brought pa's prayers," replied the boy. "Brought pa's prayers? What do you mean?" "Yes, brought his prayers, and they're out in the wagon. Just help me, and we'll get them in." Investigation disclosed the fact that pa's prayers consisted of potatoes, flour, bacon, corn-meal, turnips, apples, warm clothing and a lot of jellies for the sick ones."—Restitution.

A BOY STRONGER THAN A MAN.

A lad in Boston, rather small for his age, works in an office as errand-boy for four gentlemen who do business there. One day the gentlemen were chaffing him a little for being so small, and said to him:

"You will never amount to much; you can never do much, you are too small."

The little fellow looked at them.
"Well," said he, "as small as I am I can do something that neither of you can do."
"Ah, what is that?" said they.

"I don't know as I ought to tell you," he replied.

But they were anxious to know, and urged him to tell what he could do that neither of them was able to do.

"I can keep from swearing," said the little fellow.

There were some blushes on four faces, and there seemed to be no more anxiety for further information.

SHARE YOUR BLESSINGS.

The world is very full of sorrow and trial, and we cannot live among our fellow-men and be true without sharing their loads. If we are happy we must hold the lamp of our happiness so that it will fall upon the shadowed heart. If we have no burden, it is our duty to put our shoulders under the load of others. Selfishness must die or else our own heart's life must be frozen within us. We soon learn that we cannot live for ourselves and be Christians, that the blessings that are sent us are to be shared with others in that we are only God's almoners to carry them in God's name to those for whom they were intended.—Pacific Protestant.

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On the first and third Tuesdays in July, August, September and October, 1898, the Chicago, Milwaukee & St. Paul Railway will sell round-trip excursion tickets (good 21 days) from Chicago, Milwaukee and other points on its line, to a great many points in South and North Dakota and other western and southwestern states at about one fare. Take a trip west and see the wonderful crops and what an amount of good land can be purchased for a little money. Further information as to rates, routes, prices of farm lands, etc., may be obtained on application to any coupon ticket agent or by addressing the following-named persons: W. E. Powell, Gen'l Immigration Agent, 410 Old Colony Bldg., Chicago; H. F. Hunter, Immigration Agent for South Dakota, 291 Dearborn Street, Chicago, or Geo. H. Heafford, Gen'l Passenger Agent, Chicago, Illinois.

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STRAWBERRY SHORTCAKE.

He enjoys with vim and vigor
Both the berries and the flake;
Not a boastful word he utters
Of "those mother used to make."

For she did not use to make them—
Let the truth be written down;
In his youth she picked the berries,
And he sold them all in town.

—Truth.

WHY HE DIDN'T BID UP.

THERE WAS a red flag out in front of a farm-house up in the Swift river region in Oxford the other day when Burns was driving past the place. He can never get by an auction sale. There is something about a bargain at vendue that strikes him just where he lives. So Burns hitched his horse and stopped on the outskirts of the crowd. He remembered that at the last auction he attended he bought two pod-angers and an ox-yoke, and this time he steered himself lest he might commit similar egregiousness. In fact, he concluded that he would not bid at all.

But when the crowd got well waked up over a Jersey heifer Burns chipped in a bid or two, and finally got to going hard against a red-whiskered man who carried a whip in his left hand and expectorated violently after every bid.

As the contest waxed somewhat energetic, Burns reached for his pocketbook. His fingers ran down and down into his trousers pocket until they slid into a good big hole. The pocketbook was gone. You who have found holes in your pockets where wallets ought to be can, in some measure, appreciate Burns' feelings.

He stopped bidding, and while the red-whiskered man, still expectorating, was paying down an installment on the heifer, Burns pushed forward through the crowd and got the auctioneer's ear. The functionary listened, and in his professional drone commenced:

"This gentleman informs me that he has lost a pocketbook containing the sum of \$200. He offers a reward of \$10 for its return. Now—"

"I'll give twenty," broke in a voice in the corner.

"Thirty," cried another.

"Thirty-five," came in determined tones from the red-whiskered man.

"That was beyond what I could afford," says Burns, "and so I came away and left them bidding on it."—Lewiston (Me.) Journal.

REMEDIES FOR SLEEPLESSNESS.

"There are many remedies for sleeplessness," remarked the Kohack philosopher, judicially. "About as many I guess as that feller Carter, in the story, was said to have had oats—which was a plenty. One formula is to count one hundred as slowly as if you were working by the day, and another is to repeat the multiplication table forwards and backwards till you are utterly exhausted."

"You are also advised to imagine you are watching a flock of fool sheep jumping over a harway one at a time, and also to draw a long breath every once in awhile, and think steadily of nothing."

"Another rule is to crook and uncrook your little finger slowly and distinctly, so to describe it, several times."

"There are also all sorts of things that you are recommended to eat and not to eat, any one of which is guaranteed to put you to sleep without fear of successful contradiction."

"There is one beauty about all of these suggestions. They are totally harmless. They won't hurt you, even if they do not do you any good. I have tried 'em all, and a good many more, and I am prepared to say that the only infallible rule for producing deep, refreshing sleep is to imagine that it is time to get up. If you can firmly convince yourself that the work of the day is waiting at a standstill for you to arise and take it up, you'll go to sleep though every house in the vicinity falls with a crash. Such, I may add, is the perversity of human nature."

CABBY SCORED ONE ON THE DUKE.

An English paper tells a story of a royal duke who has the reputation of being somewhat close in money matters. On a wet afternoon he hailed a cab in Bond street and requested to be driven to Victoria station. Arrived at that terminus he handed the cabman a shilling. Then, of course, came the inevitable "Ere, what's this? Can't you make it another tanner?"

"Certainly not," said the noble fare. "And what is more, you came the wrong way. What made you go right round Hyde Park corner and Grosvenor Place?"

The cabby saw that he had no chance, and chaffingly replied, "Wot for? 'Cos St. James' Park is closed—that's wot for!"

"Closed? St. James' Park closed? Why, how's that?"

"Oh, they say as how the dock drooped a threepenny-bit a-comin' across the park last night, and the park's closed till they dred it!"

BEGINNING AN EDUCATION.

Teacher (to applicant for admission)—
"Johnnie, have you got a certificate of vaccination for smallpox?"

"Yes, sir."

"Have you been inoculated for croup?"

"Yes, sir."

"Been treated with diphtheria serum?"

"Yes, sir."

"Have your arm scratched with cholera bacilli?"

"Yes, sir."

"Have you a written guarantee that you are proof against whooping-cough, measles, mumps, scarlet fever and old age?"

"Yes, sir."

"Have you your private drinking-cup?"

"Yes, sir."

"Do you promise not to exchange sponges with the boy next to you, and never to use any but your own pencil?"

"Yes, sir."

"Will you agree to have your books fumigated with sulphur and sprinkle your clothes with chlorid of lime once a week?"

"Yes, sir."

"Johnnie, you have met the requirements of the modern sanitarians, and may now climb over yonder rail, occupy an isolated aluminium seat, and begin making P's and Q's as your first lesson."

AND THE LAST ITEM, SIR?

A young Cockney couple went to Paris to spend their honeymoon, and put up at a fashionable hotel. On sitting down to their first dinner, and not knowing any French, the Cockney took up the bill of fare and pointed to the first item thereon.

The waiter promptly brought soup, to which full justice was done. He then pointed to the second item. The waiter looked surprised, but brought two more plates of soup. Not wanting to show his ignorance of French, he and his bride soon disposed of the two plates of soup, although the effect was filling.

Thinking to strike something solid, the Cockney pointed to the fifth line on the bill. This time the waiter fairly started, but, obeying orders, brought two more plates of soup. Accepting their fate with calm dignity, they also disposed of the third lot.

"Well, Jenuie," he said, "I think we've had enough soup to get along without meat; suppose we slip down to the pastry!"

Approved in each case.

Bound not to make any mistake this time, the Cockney then expressed his desire to be served with the last item on the bill. The garcon shrugged his shoulders, and as quick as lightning placed before them a huddle of toothpicks.

HE HADN'T ANY.

The other day a fish-peddler's horse stopped in the street and refused to stir an inch. The vendor began to belabor the beast with a stick, when an old lady put her head out of the window, and exclaimed:

"Have you no mercy?"

"No, ma'am," replied the peddler, "nothing but mackerel."—Tid-Bits.

UNMOVED.

Suppliant—"Remember, sir, that it is as easy for a camel to pass through the eye of a needle as for a rich man to enter the kingdom of heaven."

Miserly millionaire—"I know it, but I don't expect to have a cent with me when I present myself at the gate."

WHEN TIME COUNTS.

Smith—"Jones feels hurt about your saying he is nearly seventy."

Brown—"But he is, isn't he?"

Smith—"He says not—only sixty-seven last July."—Puck.

THE OMAHA EXPOSITION.

When the World's Fair at Chicago ceased to exist, it was supposed that we should never look upon its like again. However, the Trans-Mississippi Exposition at Omaha has effectively reproduced in similarity all of the buildings which made the White City so attractive in 1893.

It does not now take weeks to wander through grounds and structures and then be compelled to go away with a jumble of ideas, for the Omaha Exposition people have profited by past experience, and have so improved the arrangement of exhibits that no more than two or three days of time need be consumed in admiration and inspection of the marvelous resources of the West, collected together in the chief city of Nebraska.

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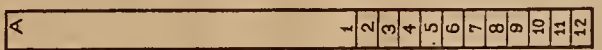
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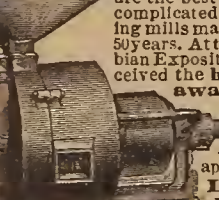


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Many of the characteristics of a good ram ought to be sought in the ewe. And here it is that the chief point of difference is determined and accentuated by the sexual functions. There should be seen in the ram a massive and powerful front, thick fore quarters and a cluster of voluminous folds about the neck; while as to the ewe, she should be, if anything, heavier in the hind quarters. Circumstances may alter features, of course, but it is hardly ever advisable to select what many breeders dominate a "pony sheep." Why? Because it is seldom that the highest beauty of form is found united to superior breeding qualities; indeed, this would hold true only by assuming that long and practical training had taught a man to regard as the most comely that figure found to be best adapted to sustain successfully the arduous duties of maternity.

As regards size and beauty, therefore, it is generally safest to select moderately large, strong and rangy ewes—ewes of the wedge pattern, having a nearly even taper from the hips forward to the shoulders. A ram in full fleece, remember, should have an almost perpendicular drop from the rump to the ground, and should be thick through the heart, with a girth just back of the shoulders nearly equal to that just in front of the hind legs. Not so in the ewe, however. In her should be found a slight departure from the perpendicular drop, due to a little less fullness in the ham, and the rear girth ought to be a little greater than the front one. In the best sucklers, and especially when advanced somewhat in years, a deep, pendulous fold may be found along the median line of the abdomen, terminating in the udder; and this is something that is a sure indication of excellent maternal organs.

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Many farmers who are troubled with the weed known as chicory, or succory, are not aware that it is considered by many persons as one of the most delicate of winter salads and pot-herbs.

In the late fall select roots that have sprung from seed in the preceding spring. These can be readily distinguished by the absence of a seed-stalk. Cut off the leaves about an inch above the crown of the root. The root should be deprived of but few of its side roots. Bury the roots full depth vertically in boxes or trenches in a warm cellar, under the greenhouse bench or in some other place that can be kept warm. After plunging the roots in the moist—not wet—soil, as noted, cover them with four or five inches of tan-bark, sawdust, moss or other loose material, and above this fresh litter to the depth of several inches. This will heat and aid in the forcing process. The litter covering is not essential if the roots are already in a pretty warm place that is not subject to considerable changes of temperature. After allowing the roots to stand thus for about six weeks the covering may be carefully removed and the white heads of the chicory—witloof, as the Belgians call it—cut for use. The roots may then be left exposed, and if darkness be maintained they will produce a second crop, which will, however, not be in the form of "witloof," but will resemble open-headed lettuce.

By placing the roots, trimmed as described above, horizontally upon shelves so that the leaves produced will hang free from contact with anything, another form known as Barbe de Capucin will be produced. The conditions of warmth, moisture and darkness must be maintained. The roots are covered with only a few inches of soil.

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M. G. KAINS.

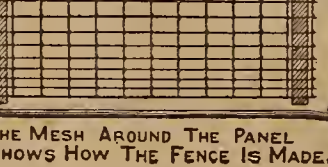
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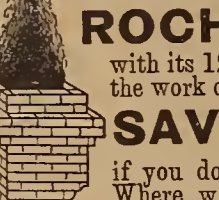
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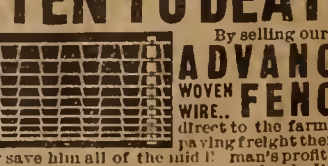
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